



STIC Search Report

EIC 1700

STIC Database Tracking Number: 172465

TO: Sandra Poulos
Location: REM 10D18
Art Unit : 1714
November 29, 2005

Case Serial Number: 10617165

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes

Examiner Poulos,

Claim 1 of this application as you have requested is very broad to search with the terms thermoplastic resin or thermosetting resin. However I have used carbon black or silica to do the search. If you have any questions please let me know. Thanks.



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

Mellerson, Kendra

172465

From: "Sandra Poulos" [sandra.poulos@uspto.gov]
Sent: Monday, November 28, 2005 8:01 AM
To: STIC-EIC1700
Subject: Database Search Request

Requester:
Sandra Poulos (TC1700)

Art Unit:
1714

Employee Number:
81697

Office Location:
REM 10D18

Phone Number:
571-272-6428

Mailbox Number:

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr.

NOV 28 2005

Pat. & T.M. Office

Case serial number:
10617165

Class / Subclass(es):
524/261

Earliest Priority Filing Date:
7/09/2002

Format preferred for results:
Paper

Search Topic Information:

Special Instructions and Other Comments:
Please search claims 1, 4, 5, 12, 13, 20, 28

L37 2 S E3-E5
L38 1 S 112945-52-5/RN
L39 2 S L38 OR L29 ✓
L40 3 S L12 AND L21

FILE 'HCAPLUS' ENTERED AT 11:25:57 ON 29 NOV 2005

L41 17 S L24
L42 204 S L28
L43 221 S L41 OR L42 ✓
L44 337426 S L39 ✓

FILE 'REGISTRY' ENTERED AT 11:29:18 ON 29 NOV 2005

L45 1 S 220727-26-4/RN
L46 1 S 56275-01-5/RN
L47 3 S LL45 OR L46 OR L33 }

FILE 'HCAPLUS' ENTERED AT 11:34:24 ON 29 NOV 2005

FILE 'REGISTRY' ENTERED AT 11:34:28 ON 29 NOV 2005

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L49 300000 S L48 RAN=(171080-91-4,)
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L51 300000 S L49 OR L49
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L55 150000 S L54 RAN=(120642-24-2,)
L56 163052 S L54 NOT L55
E SILICA RUBBER/CN
L57 1 S E2

FILE 'HCAPLUS' ENTERED AT 11:58:30 ON 29 NOV 2005

L58 30151 S L52
L59 43715 S L53
L60 55923 S L55
L61 219384 S L56
L62 273811 S L58-L61
L63 337426 S L29
L64 5563 S SILICA(3A) (RUBBER? OR ELASTOMER?)
L65 1295 S L64 AND L62 AND (L63 OR L43 OR L44)
L66 30 S L65 AND HARD?(3A) (RUBBER? OR ELASTOMER?)
L67 1 S L66 AND L11

L62 or L44

=> d his

(FILE 'HOME' ENTERED AT 09:07:48 ON 29 NOV 2005)

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L2 STR

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L4 SCR 2043

L5 50 S L2 AND L4

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L6 STR L2

FILE 'REGISTRY' ENTERED AT 09:40:27 ON 29 NOV 2005
L7 50 S L6 AND L4

L8 STR L6

L9 50 S L8 AND L4

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L10 804 S JOSHI P?/AU

L11 1 S L10 AND HARDNESS/TI
SEL RN

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L13 STR L8

L14 SCR 2026

L15 50 S L13 AND L14

L16 SCR 1918

L17 50 S L13 AND L14 NOT L16

L18 STR L13

L19 STR L18

L20 50 S L19 AND L14 NOT L16

L21 613052 S L19 AND L14 NOT L16 FUL

L22 1 S CARBON BLACK/CN

L23 0 S 1333-86-4/CRN

L24 1 S 1333-86-4/RN

L25 1 S 138184-94-8/RN

L26 1 S 146701-60-2/RN

L27 1 S 158766-37-1/RN

L28 3 S L25-L27

L29 1 S 7631-86-9/RN

L30 6 S L12 AND 1-3/SI

L31 1 S 56275-01-5/RN

L32 377 S 1066-40-6/CRN

L33 1 S 14814-09-6/RN

L34 1 S 14807-96-6/RN

L35 1147 S 7699-41-4/CRN

L36 1 S 13983-17-0/RN

E THIXOTROPIC FUMED SILICA/CN

E FUMED SILICA/CN

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FILE 'REGISTRY' ENTERED AT 09:07:57 ON 29 NOV 2005

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FILE 'LREGISTRY' ENTERED AT 09:27:32 ON 29 NOV 2005

L2 STR

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L5 50 S L2 AND L4

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L16 SCR 1918

L17 50 S L13 AND L14 NOT L16

L18 STR L13

L19 STR L18

L20 50 S L19 AND L14 NOT L16

L21 613052 S L19 AND L14 NOT L16 FUL

L22 1 S CARBON BLACK/CN

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L25 1 S 138184-94-8/RN

L26 1 S 146701-60-2/RN

L27 1 S 158766-37-1/RN

L28 3 S L25-L27

L29 1 S 7631-86-9/RN

L30 6 S L12 AND 1-3/SI

L31 1 S 56275-01-5/RN

L32 377 S 1066-40-6/CRN

L33 1 S 14814-09-6/RN

L34 1 S 14807-96-6/RN

L35 1147 S 7699-41-4/CRN

L36 1 S 13983-17-0/RN

E THIXOTROPIC FUMED SILICA/CN

E FUMED SILICA/CN

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L38 1 S 112945-52-5/RN
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 L46 1 S 56275-01-5/RN
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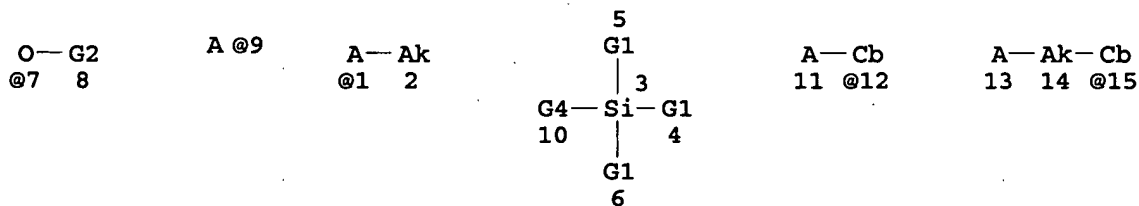
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 L67 1 S L66 AND L11

=> d que 166

L14 SCR 2026
 L16 SCR 1918
 L19 STR



VAR G1=H/AK/CB/7
 VAR G2=AK/CB
 VAR G4=1/9/12/15

NODE ATTRIBUTES:

NSPEC IS RC AT 1
 NSPEC IS RC AT 9
 NSPEC IS RC AT 11
 NSPEC IS RC AT 13
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I
 NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

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 OR L43 OR L44)
 L66 30 SEA FILE=HCAPLUS ABB=ON PLU=ON L65 AND HARD?(3A) (RUBB
 ER? OR ELASTOMER?)

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 13:00:00 ON 29 NOV 2005

=> d l66 1-30 ibib abs hitstr hitind

L66 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:822075 HCAPLUS
 DOCUMENT NUMBER: 143:231174
 TITLE: Vulcanizable rubber mixture and thermoplastic copolymer mixture containing amino-derivatives of fatty acid sarcosides, procedure and use.
 INVENTOR(S): Bertrand, Joachim; Hensel, Manfred; Kirchner, Lutz; Umland, Henning
 PATENT ASSIGNEE(S): Schill & Seilacher 'Struktol' AG, Germany
 SOURCE: Ger. Offen., 16 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

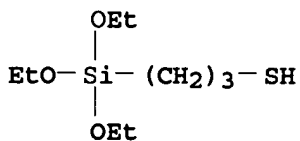
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102004005132	A1	20050818	DE 2004-102004005132	2004 0202

PRIORITY APPLN. INFO.: DE 2004-102004005132
 2004
0202

AB Vulcanizable rubber mixts. and thermoplastic copolymer mixts. contain precipitated silica as a filler, amino-derivs. of fatty acid sarcosides as a viscosity-reducing material and silane-derivs. as a coupling agent for silica. Thus, a rubber composition containing 103.1 weight parts of styrene-butadiene rubber (Buna VSL 5025-1), 25 weight parts of butadiene rubber (Buna CB10), 80 weight parts of silica (Ultrasil 7000GR), 5 weight parts of aromatic oil Sundex 790, 12.5 weight parts of coupling agent X 50S, 3 weight parts of stearyl sarcoside, 2.5 parts of ZnO, antioxidants, sulfur, vulcanization agents and stearic acid vulcanized 33 min at 160° gave a rubber having shore A hardness 62 and tensile strength 18.3 mpa s increasing on 6% after keeping 1 wk at 70°.

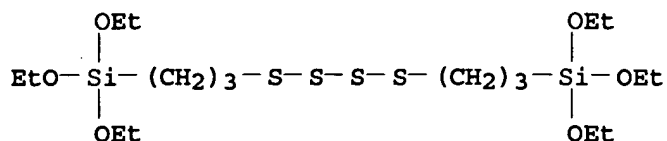
IT 14814-09-6, 3-Mercaptopropyltriethoxysilane
 40372-72-3, Bis(3-triethoxysilylpropyl)tetrasulfide
 56859-24-6, 3-Thiocyanatopropyltrimethoxysilane
 (coupling agent for silica; vulcanizable rubber mixts. and thermoplastic copolymer mixts. contain precipitated silica as a filler, amino-derivs. of fatty acid sarcosides as a viscosity-reducing material and silane-derivs. as a coupling agent)

RN 14814-09-6 HCAPLUS
 CN 1-Propanethiol, 3-(triethoxysilyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



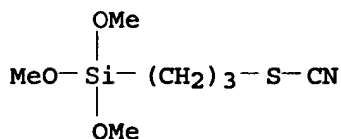
RN 40372-72-3 HCAPLUS
 CN 3,16-Dioxa-8,9,10,11-tetrathia-4,15-disilaooctadecane,

4,4,15,15-tetraethoxy- (9CI) (CA INDEX NAME)



RN 56859-24-6 HCAPLUS

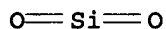
CN Thiocyanic acid, 3-(trimethoxysilyl)propyl ester (9CI) (CA INDEX NAME)



IT 7631-86-9, Ultrasil 7000GR, uses
 (vulcanizable rubber mixts. and thermoplastic copolymer mixts.
 contain precipitated silica as a filler, amino-derivs. of fatty acid
 sarcosides as a viscosity-reducing material and silane-derivs.
 as a coupling agent)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K005-17

ICS C08L021-00; C08J003-18; C08K005-54; B60C001-00

CC 39-9 (Synthetic Elastomers and Natural Rubber)

IT Amides, uses

(of fatty acid sarcosides, lubricants; vulcanizable
 rubber mixts. contain precipitated silica as a
 filler, amino-derivs. of fatty acid sarcosides as a
 viscosity-reducing material and silane-derivs. as a coupling
 agent)

IT 14814-09-6, 3-Mercaptopropyltriethoxysilane

40372-72-3, Bis(3-triethoxysilylpropyl)tetrasulfide

56859-24-6, 3-Thiocyanatopropyltrimethoxysilane

(coupling agent for silica; vulcanizable

rubber mixts. and thermoplastic copolymer mixts.

contain precipitated silica as a filler, amino-derivs. of fatty acid

sarcosides as a viscosity-reducing material and silane-derivs.

as a coupling agent)

IT 7631-86-9, Ultrasil 7000GR, uses

(vulcanizable rubber mixts. and thermoplastic copolymer mixts.

contain precipitated silica as a filler, amino-derivs. of fatty acid

sarcosides as a viscosity-reducing material and silane-derivs.

as a coupling agent)

L66 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:322868 HCAPLUS

DOCUMENT NUMBER: 142:356551

TITLE: Curable fluoropolyether rubber compositions and their cured products for automobiles, plants, ink-jet printers, semiconductor devices, chemical or medical devices, aircrafts, and fuel cells with excellent mold releasability and mechanical strength

INVENTOR(S): Osawa, Yasuhisa; Matsuda, Takashi; Sato, Makoto; Yamaguchi, Hiromasa

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005097369	A2	20050414	JP 2003-330556	2003 0922

PRIORITY APPLN. INFO.: JP 2003-330556

2003
0922

AB The compns., useful for diaphragms, valves, o-rings, sealants, gaskets, packings, and joints, contain linear 100 parts fluoropolyethers (A) bearing ≥ 2 alkenyl groups, organosilicon compds. (B) bearing ≥ 2 of H atoms bonded to Si, 1-200 parts alumina powders (C) with average particle size $\leq 1 \mu\text{m}$, and hydrosilylation catalysts (D) at molar ratio of Si-H groups in B to alkenyl groups in A 0.5-5. Thus, a 100:50 mixture of a base composition containing dimethylvinylsilyl-terminated perfluoropolyoxypropylene 100, dimethylchlorosilane-treated SiO₂ 25, C₈F₁₇CH₂CH₂Si(OSiHMe₂)₃ 2.74, and a modified chloroplatinic acid solution 0.2 part and Al₂O₃ was press-cured at 150° in a mold to give a test piece showing no mold abrasion and Durometer A hardness 62, elongation 350%, tensile strength 23 kN/m, and compression set (200°, 20 h, 25% compression) 19%.

IT 7631-86-9, Fumed silica, uses
(colloidal, dimethylchlorosilane-treated, filler;
hydrosilylation-curable fluoropolyether rubber compns. for
diaphragms, gaskets, and sealants with good mold releasability
and strength)

RN 7631-86-9 HCAPLUS

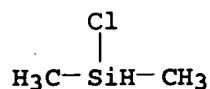
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 1066-35-9, Dimethylchlorosilane
(fumed silica treated with, filler; hydrosilylation-curable
fluoropolyether rubber compns. for diaphragms, gaskets, and
sealants with good mold releasability and strength)

RN 1066-35-9 HCAPLUS

CN Silane, chlorodimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT 291525-37-6P

(rubber; hydrosilylation-curable fluoropolyether rubber compns.
for diaphragms, gaskets, and sealants with good mold
releasability and strength)

RN 291525-37-6 HCAPLUS

CN Trisiloxane, 3-[(dimethylsilyl)oxy]-3-
(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-
1,1,5,5-tetramethyl-, polymer with α,α' -(1,1,2,2-
tetrafluoro-1,2-ethanediyl)bis[ω -[1-[[[3-
(ethenyldimethylsilyl)phenyl]methylamino]carbonyl]-1,2,2,2-
tetrafluoroethoxy]poly[oxy[trifluoro(trifluoromethyl)-1,2-
ethanediyl]]] (9CI) (CA INDEX NAME)

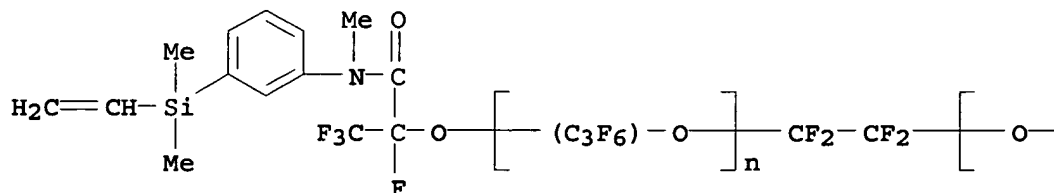
CM 1

CRN 189380-14-1

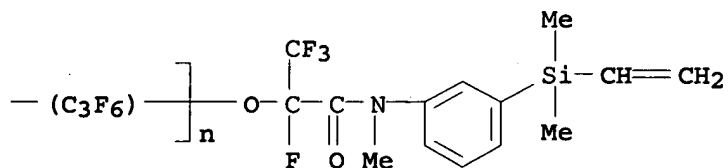
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CCI IDS, PMS

PAGE 1-A



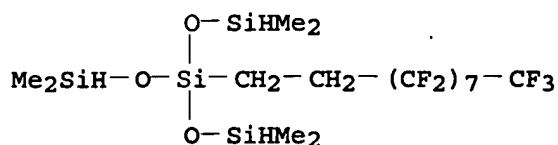
PAGE 1-B



CM 2

CRN 133068-46-9

CMF C16 H25 F17 O3 Si4



- IC ICM C08L071-00
ICS C08K003-22; C08K005-541; C08K009-06; F16J003-02; F16J015-10;
C08L083-05
- CC 39-15 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 37
- ST fluoropolyether rubber hydrosilylation curing
hardness gasket; mold releasability perfluoro
polyoxyalkylene alumina powder; silane treatment silica
filler rubber strength
- IT 7631-86-9, Fumed silica, uses
(colloidal, dimethylchlorosilane-treated, filler;
hydrosilylation-curable fluoropolyether rubber compns. for
diaphragms, gaskets, and sealants with good mold releasability
and strength)
- IT 1066-35-9, Dimethylchlorosilane
(fumed silica treated with, filler; hydrosilylation-curable
fluoropolyether rubber compns. for diaphragms, gaskets, and
sealants with good mold releasability and strength)
- IT 291525-37-6P
(rubber; hydrosilylation-curable fluoropolyether rubber compns.
for diaphragms, gaskets, and sealants with good mold
releasability and strength)

L66 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:297666 HCAPLUS

DOCUMENT NUMBER: 142:356514

TITLE: UV-curable polymer compositions with high
hardness and mechanical strength

INVENTOR(S): Goto, Tomoyuki; Inoue, Yoshifumi

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005089672	A2	20050407	JP 2003-327377	

2003

0919

PRIORITY APPLN. INFO.: JP 2003-327377

2003

0919

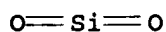
- AB The compns. comprise UV-curable liquid polymers, fillers
surface-treated with compds. having UV-reactive groups, and
photopolymer. initiators. Thus, a composition comprising
3-acryloyloxypropyl-terminated dimethylsiloxane,
3-methacryloyloxypropyltrimethoxysilane-treated silica (Aerosil R

7200), and diethoxyacetophenone was UV-cured to give a test piece showing tensile strength 0.9 MPa and hardness 36.

IT 7631-86-9, Aerosil 200, properties
(colloidal, surface-treated; surface-treated fillers for UV-curable silicone rubbers with high hardness and mech. strength)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 158366-76-8P
(rubber; surface-treated fillers for UV-curable silicone rubbers with high hardness and mech. strength)

RN 158366-76-8 HCAPLUS

CN Poly[oxy(dimethylsilylene)], α -[dimethyl[3-[(1-oxo-2-propenyl)oxy]propyl]silyl]- ω -[[dimethyl[3-[(1-oxo-2-propenyl)oxy]propyl]silyl]oxy]-, homopolymer (9CI) (CA INDEX NAME)

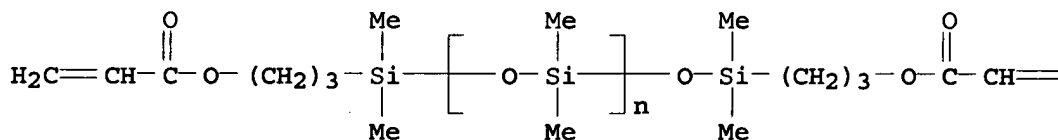
CM 1

CRN 58170-10-8

CMF (C2 H6 O Si)_n C16 H30 O5 Si2

CCI PMS

PAGE 1-A



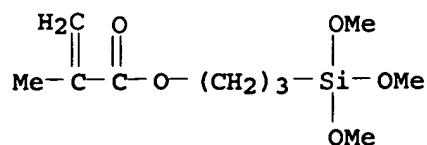
PAGE 1-B



IT 2530-85-0, 3-Methacryloxypropyltrimethoxysilane
(treating silica with; surface-treated fillers for UV-curable silicone rubbers with high hardness and mech. strength)

RN 2530-85-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI)
(CA INDEX NAME)



- IC ICM C08L101-02
ICS C08K009-06; C08L083-04
CC 39-9 (Synthetic Elastomers and Natural Rubber)
ST UV curable silicone **rubber silica**
hardness; methacryloxypropylmethoxysilane **silica**
filler acrylic methylsiloxane **rubber**
IT Coupling agents
(UV-reactive silanes, treating silica with; surface-treated
fillers for UV-curable silicone **rubbers** with high
hardness and mech. strength)
IT Silanes
(UV-reactive, hydrolyzable, treating silica with;
surface-treated fillers for UV-curable silicone **rubbers**
with high **hardness** and mech. strength)
IT Silicone rubber, preparation
(acrylic-; surface-treated fillers for UV-curable silicone
rubbers with high **hardness** and mech.
strength)
IT Acrylic rubber
(siloxane-; surface-treated fillers for UV-curable silicone
rubbers with high **hardness** and mech.
strength)
IT 7631-86-9, Aerosil 200, properties
(colloidal, surface-treated; surface-treated fillers for
UV-curable silicone **rubbers** with high
hardness and mech. strength)
IT 158366-76-8P
(rubber; surface-treated fillers for UV-curable silicone
rubbers with high **hardness** and mech.
strength)
IT 442681-76-7, Aerosil R 7200
(surface-treated fillers for UV-curable silicone
rubbers with high **hardness** and mech.
strength)
IT 2530-85-0, 3-Methacryloxypropyltrimethoxysilane
(treating silica with; surface-treated fillers for UV-curable
silicone **rubbers** with high **hardness** and
mech. strength)

ACCESSION NUMBER: 2005:72799 HCAPLUS

TITLE: Silica-compounded rubber

INVENTOR(S) : Yatsuyanagi, Akira; Kirino, Yoshiaki;
Maruyama, Tsukasa; Ishikawa, Kazunori

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005023134	A2	20050127	JP 2003-187579	2003 0630
PRIORITY APPLN. INFO.:				2003 0630

AB Title compns., also having low hysteresis loss, contain 100 parts diene rubbers, 5-90 parts SiO₂, 1-10 parts phenolic resins, resin hardeners, and 1-20% (based on 100 parts SiO₂) S-containing silane couplers having alkoxy-silyl groups and main chain with structure as (YSx)_n [Y = (hetero)organic group; n = 2-50; x = 1.5-4]. A composition containing SBR 1712 137.5, Nipsil AQ 80, S 2, Thiokol LP 3 and glycidxypropyltrimethoxysilane product (I) 4, Sumikanol 610 3, and Sumikanol 507A 6.5 parts showed a 100° Mooney viscosity (ML) 92 and was vulcanized to form a test piece with break strength 22.3 MPA and 70° tanδ 0.156; vs., 23.0 and 0.163, resp., for a sample prepared from a I-, Sumikanol 610- and Sumikanol 507A-free similar composition with ML of 110.

IT 7631-86-9, Nipsil AQ, uses
 (SiO₂-compounded diene rubber compns. containing alkoxy-silyl-polysulfide couplers and phenolic resin/hardeners for mech. strength and processability)

RN 7631-86-9 HCAPLUS

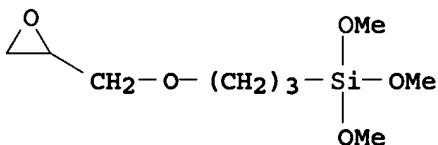
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, reaction products with polysulfide rubbers 24801-88-5DP, 3-Isocyanatopropyltriethoxysilane, reaction products with ethoxylated polysulfide rubbers and alkoxy-silyl-containing polysulfides 40372-72-3DP, Bis(3-triethoxysilylpropyl)tetrasulfide, reaction products with isocyanatoalkoxysilanes and ethoxylated polysulfide rubbers (rubber, coupler; SiO₂-compounded diene rubbers containing thioalkoxysilane couplers and phenolic resin/hardeners for processability and mech. strength)

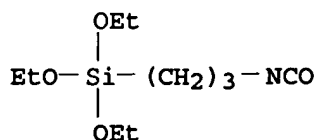
RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

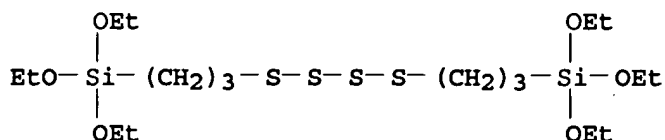


RN 24801-88-5 HCAPLUS

CN Silane, triethoxy(3-isocyanatopropyl)- (9CI) (CA INDEX NAME)



RN 40372-72-3 HCAPLUS

CN 3,16-Dioxa-8,9,10,11-tetrathia-4,15-disilaooctadecane,
4,4,15,15-tetraethoxy- (9CI) (CA INDEX NAME)

IC ICM C08L021-00

ICS C08K003-36; C08L081-04; C08L061-06

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST silica diene rubber phenolic resin

hardener alkoxysilyl polysulfide coupler; mech strength
processability viscoelastic property silica compounded
diene rubber

IT 7631-86-9, Nipsil AQ, uses

(SiO₂-compounded diene rubber compns. containing
alkoxysilyl-polysulfide couplers and phenolic resin/hardeners
for mech. strength and processability)IT 75-21-8DP, Ethylene oxide, reaction products with polysulfide
rubbers and NCO-containing alkoxysilanes and alkoxysilyl-containing
polysulfides 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, reaction products with
polysulfide rubbers 24801-88-5DP, 3-Isocyanatopropyltriethoxysilane, reaction products with
ethoxylated polysulfide rubbers and alkoxysilyl-containing
polysulfides 40372-72-3DP, Bis(3-triethoxysilylpropyl)tetrasulfide, reaction products with
isocyanatoalkoxysilanes and ethoxylated polysulfide rubbers
(rubber, coupler; SiO₂-compounded diene rubbers containing
thioalkoxysilane couplers and phenolic resin/hardeners for
processability and mech. strength)

L66 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:940079 HCAPLUS

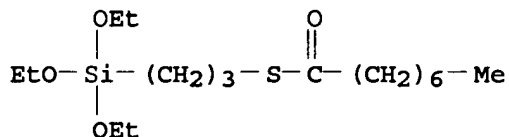
DOCUMENT NUMBER: 142:318054

TITLE: Effect of nitrile rubber on
properties of silica-filled natural
rubber compoundsAUTHOR(S): Yan, Hexiang; Sun, Kang; Zhang, Yong; Zhang,
YinxiCORPORATE SOURCE: State Key Laboratory of Metal Matrix
Composites, Shanghai Jiao Tong University,
Shanghai, 200030, Peop. Rep. ChinaSOURCE: Polymer Testing (2004), Volume Date 2005,
24(1), 32-38

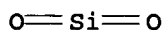
CODEN: POTESZ; ISSN: 0142-9418

PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

- AB The effect of nitrile rubber (NBR) on the properties of silica-filled natural rubber (NR) compds. was studied in the presence of a new silane coupling agent, 3-octanoylthio-1-propyltriethoxysilane (NXT). The properties of silica-filled NR compds. were improved by adding NBR. The torque at equilibrium of compds. decreased with increasing NBR content. The dispersion of silica was improved by adding NBR. The scorch time and optimum cure time became shorter with increasing NBR content. The crosslink d. of silica-filled NR vulcanizates also increased with increasing NBR content. The modulus and hardness of NR vulcanizates were increased by adding NBR. The wet traction of the NR vulcanizates containing NBR was better than that without NBR, but rolling resistance of the vulcanizates containing NBR was worse than that without NBR.
- IT 220727-26-4, NXT Silane
 (coupling agent; nitrile rubber effects on properties of silica-filled natural rubber compds.)
- RN 220727-26-4 HCAPLUS
- CN Octanethioic acid, S-[3-(triethoxysilyl)propyl] ester (9CI) (CA INDEX NAME)



- IT 7631-86-9, VN3, uses
 (nitrile rubber effects on properties of silica-filled natural rubber compds.)
- RN 7631-86-9 HCAPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- CC 39-12 (Synthetic Elastomers and Natural Rubber)
- ST nitrile natural rubber blend silica mech property
- IT Nitrile rubber, properties
 (CKH 40, blends; nitrile rubber effects on properties of silica-filled natural rubber compds.)
- IT Natural rubber, properties
 (RSS1, blends; nitrile rubber effects on properties of silica-filled natural rubber compds.)
- IT Crosslink density
 Elongation at break
 Hardness (mechanical)
 Polymer morphology
 Swelling, physical
 Tensile strength
 Torque
 (nitrile rubber effects on properties of silica-filled natural rubber compds.)

IT Polymer blends
(nitrile rubber-natural rubber; nitrile rubber effects on
properties of silica-filled natural rubber
compsd.)

IT 220727-26-4, NXT Silane
(coupling agent; nitrile rubber effects on properties of
silica-filled natural rubber compds.)

IT 7631-86-9, VN3, uses
(nitrile rubber effects on properties of silica
-filled natural rubber compds.)

IT 9003-18-3
(nitrile rubber, CKH 40, blends; nitrile rubber effects on
properties of silica-filled natural rubber
compsd.)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L66 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:41555 HCAPLUS

DOCUMENT NUMBER: 140:95418

TITLE: Silica-rubber mixtures
having improved hardness and
compounded article

INVENTOR(S): Joshi, Prashant G.; Chaves, Antonio; Hwang,
Leslie; Stout, Michael; Hofstetter, Martin;
Panzer, Louis M.

PATENT ASSIGNEE(S): Crompton Corporation, USA

SOURCE: PCT Int. Appl., 108 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004005395	A2	20040115	WO 2003-US21616	2003 0708
WO 2004005395	A3	20040805		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1551913	A2	20050713	EP 2003-763461	2003 0708
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			

JP 2005533140

T2

20051104

JP 2004-520123

2003
0708

PRIORITY APPLN. INFO.:

US 2002-394264P

P

2002
0709

US 2003-451449P

P

2003
0303

WO 2003-US21616

W

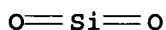
2003
0708

AB Increasing the **hardness** of SiO₂/rubber mixts. comprises blending with the mixture ≥ 1 silane and ≥ 1 member selected from thixotropic fumed SiO₂, precipitated SiO₂, an MQ resin where Q is SiO₄/2, M is R₁R₂R₃SiO₁/2, and R₁, R₂, and R₃ = functional or nonfunctional organic groups, C black, various fillers, a thermoplastic resin, and a thermosetting resin. The mechanism of hardness-increase using C black is thought to be hydrodynamic in nature and/or via formation of bound rubber.

IT 7631-86-9, Fumed silica, uses
(colloidal; for mixing with **silica-rubber**
mixts. for improving **hardness**)

RN 7631-86-9 HCAPLUS

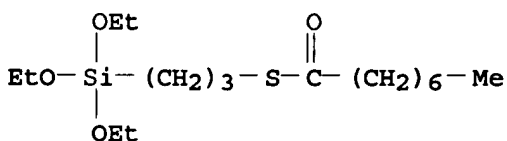
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 220727-26-4P
(coupling agent; for mixing with **silica-**
rubber mixts. and **hardness** additives)

RN 220727-26-4 HCAPLUS

CN Octanethioic acid, S-[3-(triethoxysilyl)propyl] ester (9CI) (CA
INDEX NAME)



IT 138184-94-8, Cab-O-Sil TS 720 146701-60-2,
Cab-O-Sil TS 530 158766-37-1, Cab-O-Sil TS 610
(for mixing with **silica-rubber** mixts. for
improving **hardness**)

RN 138184-94-8 HCAPLUS

CN Cab-O-Sil TS 720 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 146701-60-2 HCAPLUS

CN Cab-O-Sil TS 530 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 158766-37-1 HCAPLUS
 CN Cab-O-Sil TS 610 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 56275-01-5
 (for mixing with silica-rubber mixts. for
 improving hardness)

RN 56275-01-5 HCAPLUS
 CN Silicic acid, trimethylsilyl ester (9CI) (CA INDEX NAME)

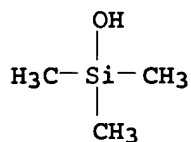
CM 1

CRN 1343-98-2
 CMF Unspecified
 CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

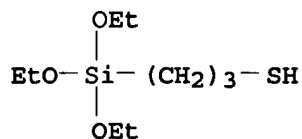
CM 2

CRN 1066-40-6
 CMF C3 H10 O Si



IT 14814-09-6, 3-Mercaptopropyltriethoxysilane
 (reaction with octanoyl chloride; coupling agent for mixing
 with silica-rubber mixts. and
 hardness additives)

RN 14814-09-6 HCAPLUS
 CN 1-Propanethiol, 3-(triethoxysilyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K009-00
 CC 39-9 (Synthetic Elastomers and Natural Rubber)
 ST hardness additive silica rubber mixt
 IT Aluminosilicates, uses
 Carbon black, uses
 Carbon fibers, uses
 Glass fibers, uses
 Kaolin, uses
 MQ resins
 Mica-group minerals, uses
 Polyamides, uses
 Polycarbonates, uses
 Polyimides, uses

Polythiophenylenes

Silanes

(for mixing with silica-rubber mixts. for improving hardness)

IT Tires

(improving hardness of silica-rubber mixts. while maintaining hysteresis, low rolling resistance and wet traction in tire compds.)

IT Styrene-butadiene rubber, properties

(improving hardness of silica-rubber mixts. while maintaining hysteresis, low rolling resistance and wet traction in tire compds.)

IT Butadiene rubber, properties

(of cis-1,4-configuration; improving hardness of silica-rubber mixts. while maintaining hysteresis, low rolling resistance and wet traction in tire compds.)

IT Polyimides, uses

(polyamide-; for mixing with silica-rubber mixts. for improving hardness)

IT Polyamides, uses

(polyimide-; for mixing with silica-rubber mixts. for improving hardness)

IT Plastics, uses

(thermoplastics; for mixing with silica-rubber mixts. for improving hardness)

IT Plastics, uses

(thermosetting; for mixing with silica-rubber mixts. for improving hardness)

IT 9003-17-2

(butadiene rubber, of cis-1,4-configuration; improving hardness of silica-rubber mixts. while maintaining hysteresis, low rolling resistance and wet traction in tire compds.)

IT 7631-86-9, Fumed silica, uses

(colloidal; for mixing with silica-rubber mixts. for improving hardness)

IT 111-64-8, Octanoyl chloride

(coupling agent for mixing with silica-rubber mixts. and hardness additives)

IT 220727-26-4P

(coupling agent; for mixing with silica-rubber mixts. and hardness additives)

IT 138184-94-8, Cab-O-Sil TS 720 146701-60-2,

Cab-O-Sil TS 530 158766-37-1, Cab-O-Sil TS 610

(for mixing with silica-rubber mixts. for improving hardness)

IT 471-34-1, Calcium carbonate, uses 1344-28-1, Alumina, uses

9002-88-4, Polyethylene 9011-14-7, Polymethyl methacrylate

13463-67-7, Titanium dioxide, uses 13983-17-0, Wollastonite

14807-96-6, Talc, uses 56275-01-5

(for mixing with silica-rubber mixts. for improving hardness)

IT 14814-09-6, 3-Mercaptopropyltriethoxysilane

(reaction with octanoyl chloride; coupling agent for mixing with silica-rubber mixts. and hardness additives)

IT 9003-55-8

(styrene-butadiene rubber, improving hardness of silica-rubber mixts. while maintaining

hysteresis, low rolling resistance and wet traction in tire compds.)

L66 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:15686 HCAPLUS

DOCUMENT NUMBER: 140:272167

TITLE: Reinforcing effect of silica and silane fillers on the properties of some natural rubber vulcanizates

AUTHOR(S): Ansarifar, A.; Nijhawan, R.; Nanapoolsin, T.; Song, M.

CORPORATE SOURCE: Institute of Polymer Technology and Materials Engineering, Loughborough University, Leicestershire, LE11 3TU, UK

SOURCE: Rubber Chemistry and Technology (2003), 76(5), 1290-1310

CODEN: RCTEA4; ISSN: 0035-9475

PUBLISHER: American Chemical Society, Rubber Division

DOCUMENT TYPE: Journal

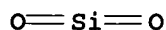
LANGUAGE: English

AB The reinforcing effect of up to 6 parts per hundred rubber by weight (phr) bis- (3-triethoxysilylpropyl) tetrasulfide (TESPT), a bifunctional organosilane, on the crosslink d., bound rubber, and tech. properties of some conventional accelerator/sulfur compds. of natural rubber, containing 30 phr precipitated amorphous white silica was studied. The crosslink d. and bound rubber improved as a function of TESPT loading. The tensile strength, elongation at break, stored energy d. at rupture, and cohesive tear strength deteriorated at low loading of TESPT, but they subsequently increased after the full amount of TESPT was introduced into the compound. The improved properties of the vulcanizate was due to the better dispersion of the filler in the rubber matrix. However, the cyclic fatigue life was adversely affected, and the hardness hardly changed as a result of adding TESPT to the rubber.

IT 7631-86-9, Ultrasil VN 3, uses 40372-72-3, Si 69 (reinforcing effect of silica and silane fillers on properties of natural rubber vulcanizates)

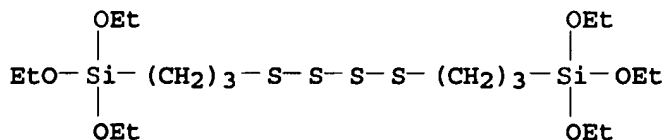
RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 40372-72-3 HCAPLUS

CN 3,16-Dioxa-8,9,10,11-tetrathia-4,15-disilaoctadecane, 4,4,15,15-tetraethoxy- (9CI) (CA INDEX NAME)



CC 39-12 (Synthetic Elastomers and Natural Rubber)

ST natural rubber vulcanizate property silica silane filler reinforcing effect

IT Vulcanization

(of natural rubber containing reinforcing silica and silane fillers)

IT Crosslink density
Elongation at break
Fatigue, mechanical
Hardness (mechanical)
Tension
Viscosity
(of natural rubber vulcanizates containing reinforcing silica and silane fillers)

IT Behavior
(reinforced; of natural rubber vulcanizates containing reinforcing silica and silane fillers)

IT Strength
(tearing; of natural rubber vulcanizates containing reinforcing silica and silane fillers)

IT 7631-86-9, Ultrasil VN 3, uses 40372-72-3, Si 69
(reinforcing effect of silica and silane fillers on properties of natural rubber vulcanizates)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L66 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:619619 HCAPLUS

DOCUMENT NUMBER: 137:312182

TITLE: Finite element modeling of indenter-sample contact during force imaging of filled rubber by atomic force microscopy

AUTHOR(S): Davis, Mark K.; Eby, R. K.

CORPORATE SOURCE: Department and Institute of Polymer Science, University of Akron, Akron, OH, 44325-3909, USA

SOURCE: Rubber Chemistry and Technology (2002), 75(1), 19-28

CODEN: RCTEA4; ISSN: 0035-9475

PUBLISHER: American Chemical Society, Rubber Division

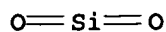
DOCUMENT TYPE: Journal

LANGUAGE: English

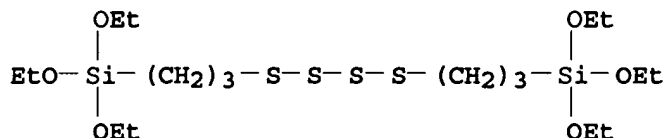
AB Finite element anal. (FEA) models were developed to study the interaction between atomic force microscope (AFM) tips and filled rubber compds. during nano-indentation. The filled systems were represented by simple models consisting of one or two discrete hard domains in a rubber matrix in order to study how such a hard domain at or near the location of an indentation measurement affected the force-distance response. Parameters studied included domain size and shape, lateral position and depth from the indentation location, effect of sample thickness, and the ability to measure modulus variation across "rubber-particle" interfaces. The analyses showed the degree to which the underlying and adjacent sample regions influenced the force-distance response at a given location. The results identified several limitations of force imaging as a characterization technique for filled systems and suggested a basis for the development of more complex FEA models.

IT 7631-86-9, Silica, uses 40372-72-3,
Bis(3-triethoxysilylpropyl tetrasulfane
(finite element modeling of indenter-sample contact during force imaging of silane coupling agent-treated silica-filled SBR rubber by atomic force microscopy)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 40372-72-3 HCAPLUS
 CN 3,16-Dioxa-8,9,10,11-tetrathia-4,15-disilaooctadecane,
 4,4,15,15-tetraethoxy- (9CI) (CA INDEX NAME)



CC 39-12 (Synthetic Elastomers and Natural Rubber)
 ST nanoindentation filled rubber AFM finite element; silica
 filled SBR rubber nanoindentation AFM
 IT Coupling agents
 Interface
 Polymer morphology
 (finite element modeling of indenter-sample contact during
 force imaging of silane coupling agent-treated silica
 -filled SBR rubber by atomic force microscopy)
 IT Styrene-butadiene rubber, properties
 (finite element modeling of indenter-sample contact during
 force imaging of silane coupling agent-treated silica
 -filled SBR rubber by atomic force microscopy)
 IT Simulation and Modeling, physicochemical
 (finite-element; finite element modeling of indenter-sample
 contact during force imaging of silane coupling agent-treated
 silica-filled SBR rubber by atomic force
 microscopy)
 IT 7631-86-9, Silica, uses 40372-72-3,
 Bis(3-triethoxysilylpropyl tetrasulfane
 (finite element modeling of indenter-sample contact during
 force imaging of silane coupling agent-treated silica
 -filled SBR rubber by atomic force microscopy)
 IT 9003-55-8
 (styrene-butadiene rubber, finite element modeling of
 indenter-sample contact during force imaging of silane coupling
 agent-treated silica-filled SBR rubber by
 atomic force microscopy)
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L66 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:86663 HCAPLUS
 DOCUMENT NUMBER: 136:311027
 TITLE: Synthesis and use of colloidal silica for
 reinforcement in silicone elastomers
 AUTHOR(S): Kwan, Kermit S.; Harrington, Daniel A.; Moore,
 Patricia A.; Hahn, James R.; Degroot, Jon V.,
 Jr.; Burns, Gary T.
 CORPORATE SOURCE: Dow Corning Corporation, Midland, MI,

SOURCE: 48686-0994, USA
Rubber Chemistry and Technology (2001), 74(4),
630-644

CODEN: RCTEA4; ISSN: 0035-9475

PUBLISHER: American Chemical Society, Rubber Division

DOCUMENT TYPE: Journal

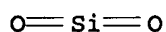
LANGUAGE: English

AB Aqueous suspensions of colloidal silica are readily silylated with either chlorosilanes or disiloxanes in the presence of acid and iso-Pr alc. without aggregation of the silica particle. By using a mixture of chlorosilanes or disiloxanes, spherical nanoparticles with controlled functionality can be made and transferred to an organic phase to provide stable, water free suspensions. The hydrophobic silica particles readily disperse into silicone polymers. At sufficient loading levels, they provide mech. reinforcement comparable to traditional fillers but with improved clarity and lower viscosities. Modulus and durometer control in the cured elastomer is possible by varying the ratio of the vinyl concentration on the filler particle to the vinyl concentration in the polymer phase.

IT 7631-86-9D, Nalco 1050, reaction products with disiloxane or chlorosilane
(colloidal, Nalco 1050, Nalco 1030, Nalco 2329, Nalco 2326; synthesis and use of functionalized colloidal silica for reinforcement in silicone elastomers)

RN 7631-86-9 HCAPLUS

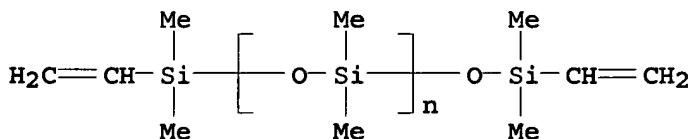
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 59942-04-0, Vinyl-terminated poly(dimethylsiloxane), SRU
(crosslinked; synthesis and use of functionalized colloidal silica for reinforcement in silicone elastomers)

RN 59942-04-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)], α -(ethenyldimethylsilyl)-
 ω -[(ethenyldimethylsilyl)oxy]- (9CI) (CA INDEX NAME)

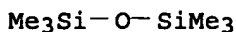


IT 107-46-0D, Hexamethyldisiloxane, reaction products with colloidal silica 30110-75-9D,
Divinyldimethyldisiloxane, reaction products with colloidal silica

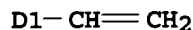
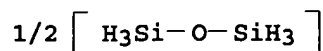
(synthesis and use of functionalized colloidal silica for reinforcement in silicone elastomers)

RN 107-46-0 HCAPLUS

CN Disiloxane, hexamethyl- (8CI, 9CI) (CA INDEX NAME)



RN 30110-75-9 HCAPLUS
CN Disiloxane, diethenyltetramethyl- (9CI) (CA INDEX NAME)



2 (D1-Me)

CC 39-9 (Synthetic Elastomers and Natural Rubber)
ST prepn functionalized colloidal silica filler silicone elastomer
IT Elongation, mechanical
Hardness (mechanical)
Viscosity
(of silicone elastomers filled with functionalized colloidal silica)
IT 7631-86-9D, Nalco 1050, reaction products with disiloxane or chlorosilane
(colloidal, Nalco 1050, Nalco 1030, Nalco 2329, Nalco 2326; synthesis and use of functionalized colloidal silica for reinforcement in silicone elastomers)
IT 31900-57-9D, Dimethylsilanediol homopolymer, vinyl-terminated 59942-04-0, Vinyl-terminated poly(dimethylsiloxane), SRU
(crosslinked; synthesis and use of functionalized colloidal silica for reinforcement in silicone elastomers)
IT 107-46-0D, Hexamethyldisiloxane, reaction products with colloidal silica 30110-75-9D, Divinyltetramethyldisiloxane, reaction products with colloidal silica
(synthesis and use of functionalized colloidal silica for reinforcement in silicone elastomers)
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L66 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:31355 HCAPLUS
DOCUMENT NUMBER: 136:71142
TITLE: Pneumatic tires with run-flat durability and riding comfortability
INVENTOR(S): Teratani, Hiroyuki; Motofusa, Shinichi; Kondo, Hajime; Nishikawa, Tomohisa; Kusano, Yukihiro; Zuigyou, Yugo
PATENT ASSIGNEE(S): Bridgestone Corporation, Japan
SOURCE: PCT Int. Appl., 116 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002002356	A1	20020110	WO 2001-JP5773	2001 0703
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,				
MC, NL, PT, SE, TR				
JP 2002036831	A2	20020206	JP 2000-220137	2000 0721
JP 2002037927	A2	20020206	JP 2000-220255	2000 0721
JP 2002036832	A2	20020206	JP 2000-220547	2000 0721
JP 2002079803	A2	20020319	JP 2001-202744	2001 0703
EP 1297974	A1	20030402	EP 2001-945807	2001 0703
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,				
MC, PT, IE, FI, CY, TR				
JP 2002103911	A2	20020409	JP 2001-221519	2001 0723
JP 2002103912	A2	20020409	JP 2001-221520	2001 0723
JP 2002144807	A2	20020522	JP 2001-259268	2001 0829
PRIORITY APPLN. INFO.:			JP 2000-200490	A 2000 0703
			JP 2000-220137	A 2000 0721
			JP 2000-220255	A 2000 0721
			JP 2000-220547	A 2000 0721
			JP 2000-222144	A 2000 0724
			JP 2000-222145	A 2000 0724
			JP 2000-258852	A 2000

0829

JP 2000-263350

A

2000
0831

WO 2001-JP5773

W

2001
0703

AB Title tires contain **hard rubber** components on the beads and/or rubber components on the sidewalls prepared from rubber compns. which show min. dynamic modulus (A1) at 200-250° of ≥75% of dynamic modulus (A2) at 50° and/or contain conjugated diene rubbers with ≥25% units of vinyl configuration and/or rubbers containing ≥40% of N- and/or Si-containing conjugated diene rubbers. A composition containing natural rubber 20, JSR BR 01 80, Vulcuren trial product KA 9188 (I) 3.0, carbon black 60, and S 5 parts was vulcanized to form a sheet with A2 of 11.4 MPa and A1/A2 of 87.4%, which was used to form the sidewall component (at interior of carcass) of a tire showing riding comfortability index 5.5 and run-flat durability index 109%; vs. 5.0 and 100% for a tire prepared from a I-free similar composition with A1/A2 of 70%.

IT 7631-86-9, Silica, uses
(filler; **rubber** compns. with controlled dynamic modulus or specific conjugated diene rubbers for tire beads or sidewalls)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

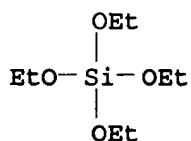
$$\text{O}=\text{Si}=\text{O}$$

IT 78-10-4, Tetraethoxysilane 2031-67-6,
Methyltriethoxysilane 2530-83-8, 3-
Glycidoxypropyltrimethoxysilane 2530-86-1
2602-34-8, 3-Glycidoxypropyltriethoxysilane
58068-97-6 110592-35-3 116229-43-7

(terminal modification agent for conjugated diene rubber;
rubber compns. with controlled dynamic modulus or specific
conjugated diene rubbers for tire beads or sidewalls)

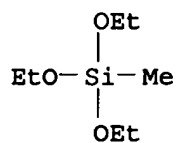
RN 78-10-4 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester (8CI, 9CI) (CA INDEX NAME)



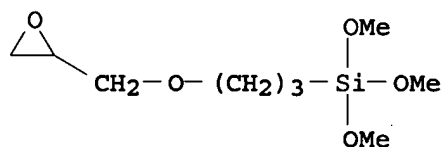
RN 2031-67-6 HCAPLUS

CN Silane, triethoxymethyl- (8CI, 9CI) (CA INDEX NAME)



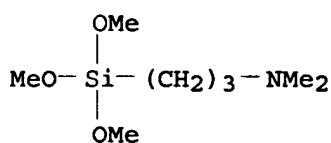
RN 2530-83-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



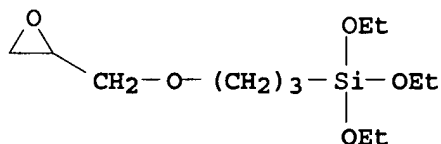
RN 2530-86-1 HCAPLUS

CN 1-Propanamine, N,N-dimethyl-3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



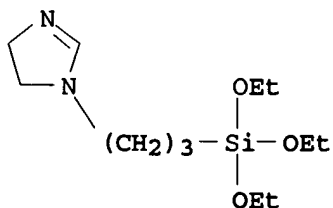
RN 2602-34-8 HCAPLUS

CN Silane, triethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 58068-97-6 HCAPLUS

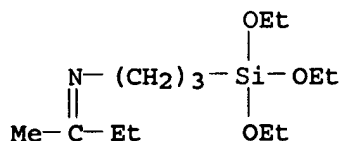
CN 1H-Imidazole, 4,5-dihydro-1-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 110592-35-3 HCAPLUS

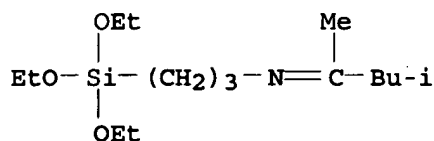
CN 1-Propanamine, N-(1-methylpropylidene)-3-(triethoxysilyl)- (9CI)

(CA INDEX NAME)



RN 116229-43-7 HCAPLUS

CN 1-Propanamine, N-(1,3-dimethylbutylidene)-3-(triethoxysilyl)-(9CI) (CA INDEX NAME)



IC ICM B60C017-00

ICS B60C001-00; C08L021-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

IT 471-34-1, Calcium carbonate, uses 546-93-0, Magnesium carbonate

1344-28-1, Alumina, uses 7631-86-9, Silica,

uses 21645-51-2, Aluminum hydroxide, uses

(filler; rubber compns. with controlled dynamic

modulus or specific conjugated diene rubbers for tire beads or sidewalls)

IT 78-10-4, Tetraethoxysilane 80-73-9 90-93-7,

4,4'-Bis(diethylamino)benzophenone 101-68-8, MDI 530-44-9,

4-(Dimethylamino)benzophenone 639-58-7, Triphenyltin chloride

683-18-1, Dibutyltin dichloride 872-50-4, N-Methylpyrrolidone,

uses 889-37-2 1461-22-9, Tributyltin chloride

2031-67-6, Methyltriethoxysilane 2530-83-8,

3-Glycidoxypropyltrimethoxysilane 2530-86-1

2602-34-8, 3-Glycidoxypropyltriethoxysilane 2929-80-8

3542-36-7, Dioctyltin dichloride 4271-96-9, 2,3-Dimethyl-3,4,5,6-

tetrahydropyrimidine 7646-78-8, Stannic tetrachloride, uses

9016-87-9 26471-62-5, TDI 40424-21-3, 1,3-Diethyl-2-

imidazolidinone 58068-97-6 110592-35-3

116229-43-7

(terminal modification agent for conjugated diene rubber;

rubber compns. with controlled dynamic modulus or specific

conjugated diene rubbers for tire beads or sidewalls)

REFERENCE COUNT:

23

THERE ARE 23 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L66 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:86345 HCAPLUS

DOCUMENT NUMBER: 134:148830

TITLE: Silicone rubber compositions with
low hardness and tension set

INVENTOR(S): Irie, Masakazu

PATENT ASSIGNEE(S): Dow Corning Toray Silicone Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2001031868	A2	20010206	JP 1999-208416	1999 0723

PRIORITY APPLN. INFO.: JP 1999-208416

1999
0723

AB The compns., giving cured products with Ascar C hardness 5-60, contain (A) 100 parts $\text{RaSiO}(4-a)/2$ [R = (un)substituted hydrocarbyl containing 0-0.08 mol% alkenyl; a = 1.95-2.05], (B) 0.01-10 parts organic compds. (mol. weight $\leq 10,000$) containing 5-40% alkenyl or alkynyl group in a mol, (C) 5-500 parts inorg. fillers, and (D) organic peroxides. Thus, 100 parts a mixture containing silanol-terminated di-Me siloxanes 100, $\text{MeSi}[\text{OSiMe}_2(\text{CH}:\text{CH}_2)]_3$ 0.15, and Aerosil 50 (fumed silica) 15 parts was mixed with 0.6 part 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane and vulcanized to give a sheet with Ascar C hardness (JIS A 6050) 22 and tension set (JIS K 6301) 6%.

IT 323183-69-3P 323183-74-0P
 (rubber, vulcanized; silicone rubber compns. with low hardness and tension set)

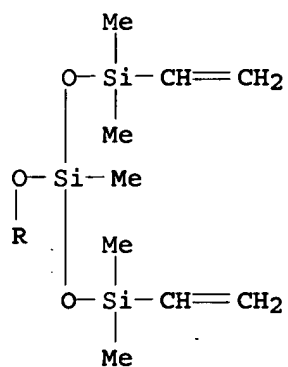
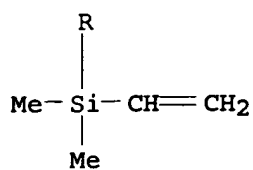
RN 323183-69-3 HCAPLUS

CN Trisiloxane, 1,5-diethenyl-3-[(ethenyldimethylsilyl)oxy]-1,1,3,5,5-pentamethyl-, polymer with α -hydro- ω -hydroxypoly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 60111-52-6

CMF C13 H30 O3 Si4

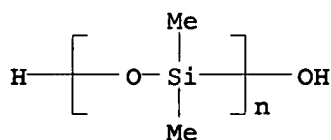


CM 2

CRN 31692-79-2

CMF (C2 H6 O Si)_n H2 O

CCI PMS



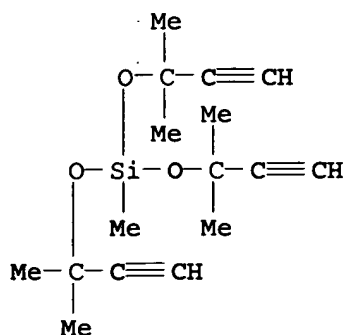
RN 323183-74-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)], α-hydro-ω-hydroxy-,
 polymer with tris[(1,1-dimethyl-2-propynyl)oxy]methyilsilane (9CI)
 (CA INDEX NAME)

CM 1

CRN 83817-71-4

CMF C16 H24 O3 Si

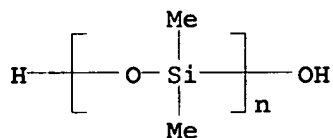


CM 2

CRN 31692-79-2

CMF (C2 H6 O Si)_n H2 O

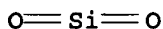
CCI PMS



IT 7631-86-9, Aerosil 50, uses
(silicone rubber compns. with low hardness
and tension set)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L083-04

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST methyl siloxane rubber filler silica peroxide;
silanol vinyl polysiloxane vulcanization rubber; peroxide
vulcanization agent silicone rubber

IT Fillers
(inorg.; silicone rubber compns. with low
hardness and tension set)

IT Peroxides, uses
(organic, alkyl- or ester-based; silicone rubber compns.
with low hardness and tension set)

IT Vulcanization accelerators and agents
(silicone rubber compns. with low hardness
and tension set)

IT Silicone rubber, preparation
(vulcanized; silicone rubber compns. with low
hardness and tension set)

IT 323183-69-3P 323183-70-6P 323183-71-7P 323183-72-8P

323183-74-0P 323183-75-1P

(rubber, vulcanized; silicone rubber compns. with low

hardness and tension set)
 IT 78-63-7, 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane
 (silicone **rubber** compns. with low **hardness**
 and tension set)
 IT 7631-86-9, Aerosil 50, uses
 (silicone **rubber** compns. with low **hardness**
 and tension set)

L66 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:85633 HCAPLUS

DOCUMENT NUMBER: 134:148844

TITLE: Manufacture of vulcanized silicone
rubbers with controlled
hardness

INVENTOR(S): Irie, Masakazu

PATENT ASSIGNEE(S): Dow Corning Toray Silicone Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2001031869	A2	20010206	JP 1999-208417	

1999
0723

PRIORITY APPLN. INFO.: JP 1999-208417

1999
0723

AB The rubbers are manufactured by mixing base compns. containing 100 parts diorganopolysiloxanes having units $R_1aSiO(4-a)/2$ [I, $R_1 =$ (un)substituted hydrocarbyl; $a = 1.95-2.05$] and 5-500 parts inorg. fillers with organic peroxides, and 0.01-10 parts (based on 100 parts I) organosilicon compds. (mol. weight $\leq 10,000$) containing 5-40% alkenyl or alkynyl groups and no OH or alkoxy groups bonded to Si atoms and thermally curing the mixts. Thus, a composition containing silanol-terminated dimethylpolysiloxane rubber 100, Aerosil 50 (SiO_2) 15, silanol-terminated dimethylsiloxane oligomer 1, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane 0.7, and tetramethyltetravinylcyclotetrasiloxane 0.11 part was cured to give a **rubber** with Ascar C **hardness** 22, tensile strength 2.5 MPa, and elongation at break 1100%.

IT 7631-86-9, Aerosil 50, uses
 (manufacture of peroxide-vulcanized silicone **rubbers** with
 controlled **hardness**)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

$O=Si=O$

IT 324020-77-1P

(rubber; manufacture of peroxide-vulcanized silicone **rubbers**
 with controlled **hardness**)

RN 324020-77-1 HCAPLUS

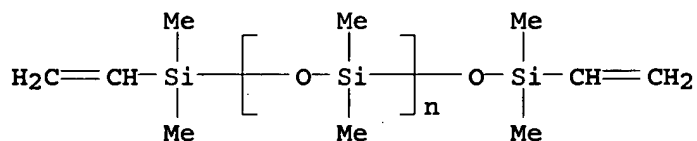
CN Cyclotetrasiloxane, 2,4,6,8-tetraethenyl-2,4,6,8-tetramethyl-, polymer with α -(ethenyldimethylsilyl)- ω -[(ethenyldimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and α -hydro- ω -hydroxypoly[oxy(dimethylsilylene)] (9CI)
(CA INDEX NAME)

CM 1

CRN 59942-04-0

CMF (C2 H6 O Si)_n C8 H18 O Si2

CCI PMS

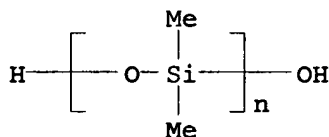


CM 2

CRN 31692-79-2

CMF (C2 H6 O Si)_n H2 O

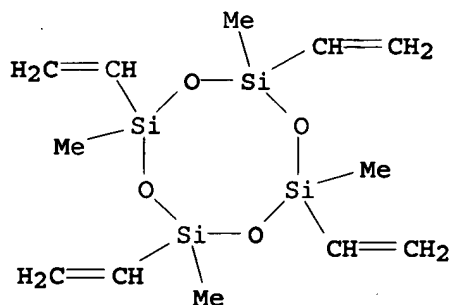
CCI PMS



CM 3

CRN 2554-06-5

CMF C12 H24 O4 Si4



IC ICM C08L083-07

ICS C08G077-18; C08G077-20; C08J003-20; C08J003-24; C08K003-00;
C08K005-14; C08K005-5425

CC 39-10 (Synthetic Elastomers and Natural Rubber)

ST vulcanization silicone rubber hardness

control; methylvinylcyclotetrasiloxane vulcanizing polysiloxane
rubber silica; org peroxide vulcanized
 organopolysiloxane

IT Silicone rubber, preparation
 (di-Me, vulcanized; manufacture of peroxide-vulcanized silicone
rubbers with controlled hardness)

IT Peroxides, uses
 (organic; manufacture of peroxide-vulcanized silicone **rubbers**
 with controlled **hardness**)

IT 78-63-7, 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane
 (manufacture of peroxide-vulcanized silicone **rubbers** with
 controlled **hardness**)

IT 7631-86-9, Aerosil 50, uses
 (manufacture of peroxide-vulcanized silicone **rubbers** with
 controlled **hardness**)

IT 323183-72-8P 324020-77-1P
 (rubber; manufacture of peroxide-vulcanized silicone **rubbers**
 with controlled **hardness**)

L66 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:49309 HCAPLUS

DOCUMENT NUMBER: 130:154844

TITLE: Manufacture of heat-vulcanizable silicone
 rubber compounds with good dispersibility

INVENTOR(S): Takahashi, Masaharu; Hagiwara, Hiroshi;
 Igarashi, Minoru; Shibata, Keiji

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

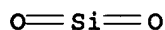
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 11012368	A2	19990119	JP 1997-187579	1997 0627
JP 3259663	B2	20020225		
US 6001917	A	19991214	US 1998-109967	1998 0627

PRIORITY APPLN. INFO.: JP 1997-187579 A
 1997
 0627

AB The compds. are manufactured by feeding organopolysiloxane raw
rubbers 100, reinforcing **silica** filler 5-100,
 and processing aids 0.1-30 parts into a batch closed mixer, mixing
 at below 150°, feeding the mixture into a kneader, and
 kneading at 150-250°. Dimethylvinylsiloxyl-terminated di-Me
 Me vinyl siloxane (Me₂SiO 99.85 mol%, average d.p. .apprx.8000) 50,
 Nipsil LP (SiO₂) 20.5, silanol-terminated linear di-Me siloxane 2,
 and vinyltrimethoxysilane 0.05 kg were kneaded in a Banbury mixer
 at 105° and kneaded in a kneader at 170-190° for 1 h
 to give .apprx.35 kg silicone rubber compound/h. The compound was
 mixed with 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane,
 press-vulcanized, and post-cured to give a **rubber** sheet

showing hardness 53, tensile strength 83 kg/cm², and elongation 340%.

IT 7631-86-9, Nipsil LP, properties
(manufacture of heat-vulcanizable silicone rubber compds. with good dispersibility)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

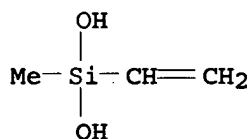


IT 220183-46-0P, Dimethylsilanediol-methylvinylsilanediol-vinyltrimethoxysilane copolymer 220183-48-2P, Dimethylsilanediol-methylsilanediol-methylvinylsilanediol-vinyltrimethoxysilane copolymer
(rubber; manufacture of heat-vulcanizable silicone rubber compds. with good dispersibility)
RN 220183-46-0 HCAPLUS
CN Silanediol, dimethyl-, polymer with ethenylmethylsilanediol and ethenyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 3959-12-4

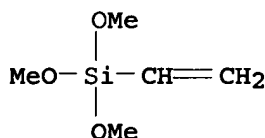
CMF C3 H8 O2 Si



CM 2

CRN 2768-02-7

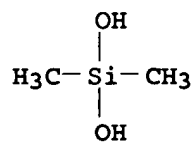
CMF C5 H12 O3 Si



CM 3

CRN 1066-42-8

CMF C2 H8 O2 Si



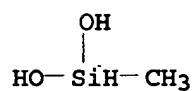
RN 220183-48-2 HCAPLUS

CN Silanediol, dimethyl-, polymer with ethenylmethyilsilanediol, ethenyltrimethoxysilane and methyilsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 43641-90-3

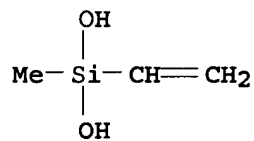
CMF C H6 O2 Si



CM 2

CRN 3959-12-4

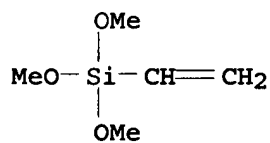
CMF C3 H8 O2 Si



CM 3

CRN 2768-02-7

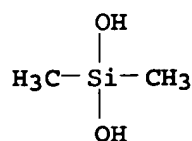
CMF C5 H12 O3 Si



CM 4

CRN 1066-42-8

CMF C2 H8 O2 Si



IC ICM C08J003-24
ICS C08J003-20; C08K003-00; C08K003-36; C08L083-04
CC 39-9 (Synthetic Elastomers and Natural Rubber)
ST heat vulcanizable silicone rubber compd manuf; vinyl methyl
siloxane rubber compd manuf; silica filler silicone
rubber compd manuf
IT 7631-86-9, Nipsil LP, properties
(manufacture of heat-vulcanizable silicone rubber compds. with good
dispersibility)
IT 220183-46-0P, Dimethylsilanediol-methylvinylsilanediol-
vinyltrimethoxysilane copolymer 220183-48-2P,
Dimethylsilanediol-methylvinylsilanediol-
vinyltrimethoxysilane copolymer
(rubber; manufacture of heat-vulcanizable silicone rubber compds.
with good dispersibility)

L66 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:21445 HCAPLUS

DOCUMENT NUMBER: 128:76488

TITLE: Silica-filled rubber
composition containing two different carbon
blacks for tire tread

INVENTOR(S): Smith, Richard Robinson; Pyle, Kevin James;
Francik, William Paul; Sandstrom, Paul Harry

PATENT ASSIGNEE(S): Goodyear Tire and Rubber Co., USA

SOURCE: Eur. Pat. Appl., 18 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 814124	A2	19971229	EP 1997-109651	1997 0613
EP 814124	A3	19980506		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CA 2198663	AA	19971222	CA 1997-2198663	1997 0227
BR 9703645	A	19981110	BR 1997-3645	1997 0620
JP 10095856	A2	19980414	JP 1997-165573	1997 0623
US 5780537	A	19980714	US 1997-915838	1997

PRIORITY APPLN. INFO.:

US 1996-667691

0821
A
1996
0621

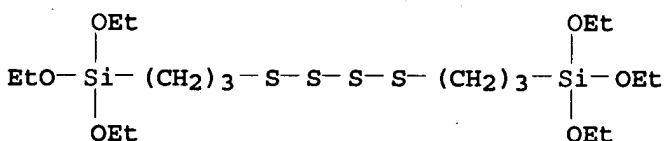
OTHER SOURCE(S): MARPAT 128:76488

AB The title rubber composition is reinforced with a combination of SiO₂ and a mixture of 2 C blacks (high and low reinforcing C black) for pneumatic tires. composition A rubber compound containing butadiene-isoprene rubber 70, natural rubber 30, oil 26.3, ZnO 2.5, fatty acid 3, antioxidant 3, SiO₂ 28, C black N299 (Iodine 108 g/kg, DBP 124 cm³/100 g) 24, C black N351 (Iodine 68 g/kg, DBP 120 cm³/100) 28, coupling agent 4.5, S 1.4, accelerator 2.6, and retarder 0.4 parts was vulcanized to give a product having Shore A hardness (23) 63, abrasion loss 118 cm³, and tan δ 0.156; vs. 63, 131, and 0.163; resp., without C black N299.

IT 40372-72-3, Bis(3-triethoxysilylpropyl)tetrasulfide
(coupling agent; silica-filled rubber
composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)

RN 40372-72-3 HCAPLUS

CN 3,16-Dioxa-8,9,10,11-tetrathia-4,15-disilaoctadecane,
4,4,15,15-tetraethoxy- (9CI) (CA INDEX NAME)



IT 7631-86-9, Silica, uses
(filler; silica-filled rubber composition containing
two different carbon blacks for tire tread with improved wear
and low rolling resistance)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L021-00

ICS C08K003-04; B60C001-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST rubber tire carbon black reinforced; silica reinforced tire tread;
hard soft carbon black rubber compn

IT Synthetic rubber, uses

(butadiene-isoprene-styrene; silica-filled
rubber composition containing two different carbon blacks for
tire tread with improved wear and low rolling resistance)

IT Synthetic rubber, properties

(butadiene-isoprene; silica-filled rubber
composition containing two different carbon blacks for tire tread with
improved wear and low rolling resistance)

IT Fillers

(carbon black, mixture of high and low reinforcing;
silica-filled rubber composition containing two
different carbon blacks for tire tread with improved wear and

- low rolling resistance)
- IT Carbon black
(fillers, mixture of high and low reinforcing; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT Isoprene rubber, properties
(of 3,4-configuration; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT Butadiene rubber, uses
(of cis-1,4-configuration; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT Butadiene rubber, uses
(of trans-1,4-configuration; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT Tires
(silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT Natural rubber, properties
Styrene-butadiene rubber, properties
(silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT ABS rubber
Isoprene-styrene rubber
Nitrile rubber, uses
(silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 9003-56-9
(abs rubber, silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 9003-17-2
(butadiene rubber, of trans-1,4-configuration; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 40372-72-3, Bis(3-triethoxysilylpropyl)tetrasulfide
(coupling agent; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 7631-86-9, Silica, uses
(filler; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 9003-31-0
(isoprene rubber, of 3,4-configuration; silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 25038-32-8
(isoprene-styrene rubber, silica-filled rubber composition containing two different carbon blacks for tire tread with improved wear and low rolling resistance)
- IT 9003-18-3
(nitrile rubber, silica-filled

IT 25102-52-7, Butadiene-isoprene copolymer 26602-62-0,
Butadiene-isoprene-styrene copolymer
(rubber; silica-filled rubber
composition containing two different carbon blacks for tire tread with
improved wear and low rolling resistance)

IT 9003-55-8
(styrene-butadiene rubber, silica-filled
rubber composition containing two different carbon blacks for
tire tread with improved wear and low rolling resistance)

IT 9003-17-2
(cis-1,4-Butadiene rubber, silica-filled
rubber composition containing two different carbon blacks for
tire tread with improved wear and low rolling resistance)

L66 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:360939 HCAPLUS
DOCUMENT NUMBER: 122:174391
TITLE: Silicone rubber blend electrostatographic
developer toner and image formation using it
INVENTOR(S): Yano, Toshuki; Eguchi, Atsuhiko; Suzuki,
Chiaki
PATENT ASSIGNEE(S): Fuji Xerox Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06337543	A2	19941206	JP 1993-146678	1993 0527
PRIORITY APPLN. INFO.:			JP 1993-146678	1993 0527

AB The toner is obtained by mixing toner particles containing a binder resin and a coloring agent with ≥ 1 kind of oxide particles, with average particle size 5-100 nm, selected from SiO₂, TiO₂, and Al₂O₃ and spherical silicone rubber particles with rubber hardness 10-70 ($1/2x \geq y$; x, y = average particle size of toner and silicone rubber, resp.). Images are formed through latent images on an organic surface layer of a support, developing with the toner, transferring the toner images, and removing the residual toner. The toner showed good repeating durability.

IT 7631-86-9, Silica, uses
(electrostatog. developer toner containing silicone rubber
and silica, titania, and/or alumina)

RN 7631-86-9 HCAPLUS

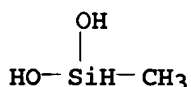
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 161527-56-6P 161527-57-7P
(rubber; electrostatog. developer toner containing silicone
rubber and silica, titania, and/or alumina)
RN 161527-56-6 HCAPLUS
CN Silanediol, ethenylmethyl-, polymer with methylsilanediol, graft
(9CI) (CA INDEX NAME)

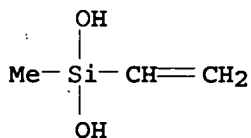
CM 1

CRN 43641-90-3
CMF C H6 O2 Si



CM 2

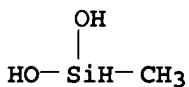
CRN 3959-12-4
CMF C3 H8 O2 Si



RN 161527-57-7 HCAPLUS
CN Silanediol, ethenylethyl-, polymer with methylsilanediol, graft
(9CI) (CA INDEX NAME)

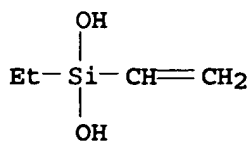
CM 1

CRN 43641-90-3
CMF C H6 O2 Si



CM 2

CRN 18243-24-8
CMF C4 H10 O2 Si



IC ICM G03G009-08
ICS G03G015-08
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT Rubber, silicone, uses
(KMP 594; electrostatog. developer toner containing silicone rubber and silica, titania, and/or alumina)
IT Carbon black, uses
(Regal 330, coloring agent; electrostatog. developer toner containing silicone rubber and silica, titania, and/or alumina)
IT Electrophotographic developers
(toners, electrostatog. developer toner containing silicone rubber and silica, titania, and/or alumina)
IT 25767-47-9, Butyl acrylate-styrene copolymer
(binder; electrostatog. developer toner containing silicone rubber and silica, titania, and/or alumina)
IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
13463-67-7, Titania, uses
(electrostatog. developer toner containing silicone rubber and silica, titania, and/or alumina)
IT 161527-56-6P 161527-57-7P
(rubber; electrostatog. developer toner containing silicone rubber and silica, titania, and/or alumina)

L66 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:248879 HCAPLUS
DOCUMENT NUMBER: 122:190130
TITLE: Rubber compositions for tire treads
INVENTOR(S): Muraoka, Kyoshige; Nakada, Yoko; Kikuchi, Naohiko; Tsumori, Isamu
PATENT ASSIGNEE(S): Sumitomo Rubber Industries Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06240052	A2	19940830	JP 1993-25274	1993 0215
PRIORITY APPLN. INFO.:				1993 0215

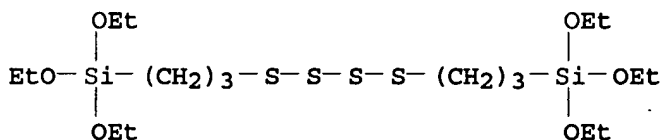
OTHER SOURCE(S): MARPAT 122:190130
AB Title compns., useful for studless tires, with good gripping property on icy roads and tanδ peak temperature

≤-45° contain diene rubbers comprising natural rubbers and/or polybutadiene rubbers 100, SiO₂ 30-130, and softeners 0-15 parts. Thus, a composition comprising a natural rubber 50, a butadiene rubber 30, SBR 20, Nipsil VN3 (SiO₂) 80, Si 69 6, Diana Process PS 32 (process oil) 8, stearic acid 2, ZnO 4, S 1, N-tert-butyl-2-benzothiazylsulfeneamide 0.7, and 1,3-diphenylgluanidine 1.5 parts showed tanδ peak temperature -49°, JIS A hardness 64, and good gripping property on an icy road.

IT 7631-86-9, Silica, uses
 (Nipsil VN3 (Nippon Silica Industry Co., Ltd.); tread rubber compns. containing diene-based rubbers and SiO₂ and softening agents for studless tires with good gripping property)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 40372-72-3, Si 69
 (silane coupling agent; tread rubber compns. containing diene-based rubbers and SiO₂ and softening agents for studless tires with good gripping property)
 RN 40372-72-3 HCAPLUS
 CN 3,16-Dioxa-8,9,10,11-tetrathia-4,15-disilaooctadecane,
 4,4,15,15-tetraethoxy- (9CI) (CA INDEX NAME)



IC ICM C08L021-00
 ICS C08K003-36; C08K005-54
 ICI C08L021-00, C08L001-00
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST rubber blend tire tread studless; grip property diene rubber tire;
silica rubber blend tire hardness;
 softener diene rubber studless tire; process oil tire skid resistance
 IT 7631-86-9, Silica, uses
 (Nipsil VN3 (Nippon Silica Industry Co., Ltd.); tread rubber compns. containing diene-based rubbers and SiO₂ and softening agents for studless tires with good gripping property)
 IT 40372-72-3, Si 69
 (silane coupling agent; tread rubber compns. containing diene-based rubbers and SiO₂ and softening agents for studless tires with good gripping property)

L66 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:573183 HCAPLUS

DOCUMENT NUMBER: 117:173183

TITLE: Processable silicone compositions and their
 vulcanized rubbers with low
hardness

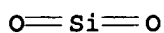
INVENTOR(S): Takahashi, Masaharu; Hatakeyama, Jun; Sato,

PATENT ASSIGNEE(S): Terukazu
 SOURCE: Shin-Etsu Chemical Industry Co., Ltd., Japan
 Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

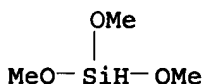
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04117457	A2	19920417	JP 1990-238229	1990 0907
JP 07091474	B4	19951004	JP 1990-238229	1990 0907

PRIORITY APPLN. INFO.:
 1990
0907

AB Title compns. contain (A) alkenyl-containing organopolysiloxanes with d.p. ≥ 3000 , (B) H- and/or alkoxy-containing organic Si compds., (C) unsatd. group-containing organopolysiloxanes with d.p. 20-500 at B/C 0.005-0.5 and (D) powdered silica having sp. surface area < 50 m²/g. Thus, a mixture of Aerosil 200, silanol-terminated polydimethylsiloxane, and a raw rubber which was prepared from 1,3,5,7-tetramethylcyclotetrasiloxane, Et silicate, and vinyl-terminated polydimethylsiloxane, was heated at 150° for 2 h, treated with a H₂PtCl₆ solution, a tetravinylcyclosiloxane, and a polydimethylmethylhydrogensiloxane, vulcanized at 170° for 10 min, and 200° for 4 h to give a test piece with compression set 3% and JIS A hardness 33.
 IT 7631-86-9, Aerosil 200, uses
 (fillers, for silicon rubber)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 2487-90-3, Trimethoxysilane 11099-06-2
 (silicon rubbers from, containing silica, with good processability and low hardness)
 RN 2487-90-3 HCAPLUS
 CN Silane, trimethoxy- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 11099-06-2 HCAPLUS
 CN Silicic acid, ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 1343-98-2
 CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 64-17-5

CMF C2 H6 O

 $\text{H}_3\text{C}-\text{CH}_2-\text{OH}$

IC ICM C08L083-07

ICS C08L083-10

ICA C08G077-44; C08K003-36

CC 39-4 (Synthetic Elastomers and Natural Rubber)

ST silicone rubber low hardness

IT Rubber, silicone, preparation

(silica-containing, with good processability and low hardness)

IT 7631-86-9, Aerosil 200, uses

(fillers, for silicon rubber)

IT 2370-88-9, 1,3,5,7-Tetramethylcyclotetrasiloxane 2487-90-3

, Trimethoxysilane 11099-06-2

(silicon rubbers from, containing silica, with good processability and low hardness)

L66 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:237192 HCAPLUS

DOCUMENT NUMBER: 116:237192

TITLE: Compression-resistant silicone rubber composition and its use

INVENTOR(S): Nakamura, Akito; Sato, Takahiro

PATENT ASSIGNEE(S): Dow Corning Toray Silicone Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

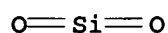
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

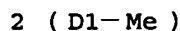
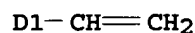
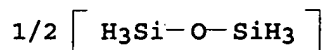
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 477984	A1	19920401	EP 1991-116601	1991 0927
EP 477984	B1	19950405		
R: DE, FR, GB				
JP 04139258	A2	19920513	JP 1990-262149	1990 0928
JP 2522722	B2	19960807		
CA 2052410	AA	19920329	CA 1991-2052410	1991 0927
PRIORITY APPLN. INFO.:			JP 1990-262149	A 1990 0928

- AB Title composition, useful in roll covering without needing a post cure, is prepared by mixing a polydiorganosiloxane having ≥ 3 alkenyl groups on the polymer chain, H-terminated polydiorganosiloxane crosslinker, and inorg. filler, and a Pt-type accelerator. A mixture of 20 parts Me_2SiCl_2 -treated fumed silica and 100 parts trimethylsiloxy-terminated di-Me siloxane-Me vinyl siloxane copolymer was heat treated at 170° for 2 h, and then mixed with 2.6 parts Me_2HSiO -terminated di-Me polysiloxane (I), 0.06 parts monomethyltris(methylbutenoxy)silane, and chloroplatinic acid-tetramethyldivinylsiloxane complex (responding to 10 ppm Pt) to give a silicone rubber composition showing hardness 11 JIS A and compression set 7%, compared with 19 and 16, resp., for a similar composition using 0.6 parts trimethylsiloxy-terminated di-Me siloxane-Me H siloxane copolymer instead of I.
- IT 7631-86-9D, Silica, compds.
(fumed, fillers, for silicone rubber compns.)
- RN 7631-86-9 HCAPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- IT 30110-75-9D, complex with chloroplatinic acid
(vulcanization catalysts, for silicone rubber)
- RN 30110-75-9 HCAPLUS
- CN Disiloxane, diethenyltetramethyl- (9CI) (CA INDEX NAME)



- IC ICM C08L083-07
- CC 39-9 (Synthetic Elastomers and Natural Rubber)
- IT 75-78-5, Dimethyldichlorosilane
(couplers for fumed silica fillers, for silicone rubber)
- IT 7631-86-9D, Silica, compds.
(fumed, fillers, for silicone rubber compns.)
- IT 16941-12-1D, Chloroplatinic acid, complexes with tetramethyldivinylsiloxane 30110-75-9D, complex with chloroplatinic acid
(vulcanization catalysts, for silicone rubber)
- L66 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
- ACCESSION NUMBER: 1990:613690 HCAPLUS
- DOCUMENT NUMBER: 113:213690
- TITLE: Manufacture of improved reinforcing silica fillers for silicone

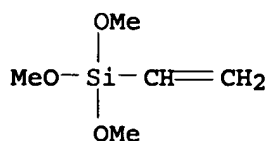
INVENTOR(S): rubbers by treatment with
 alkoxyasilanes
 Kennan, Linda Denise; Monroe, Carl Morrison;
 Knapp, Theodore Lawrence; Skostins, Olgerts
 PATENT ASSIGNEE(S): Dow Corning Corp., USA
 SOURCE: Eur. Pat. Appl., 13 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 382370	A1	19900816	EP 1990-300676	1990 0123
EP 382370	B1	19940406		
R: BE, DE, ES, FR, GB, IT, NL				
US 5008305	A	19910416	US 1989-306193	1989 0206
CA 2008221	AA	19900806	CA 1990-2008221	1990 0122
ES 2055313	T3	19940816	ES 1990-300676	1990 0123
AU 9049103	A1	19900809	AU 1990-49103	1990 0205
AU 622270	B2	19920402		
JP 02283764	A2	19901121	JP 1990-24561	1990 0205
JP 2892741	B2	19990517		
PRIORITY APPLN. INFO.:			US 1989-306193	A 1989 0206

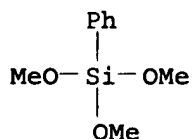
AB An improved reinforcing silica (I) filler, having a surface area >50 m²/g and 0.5-6 weight parts adsorbed moisture/100 parts I, is produced by treatment with a volatile treating agent comprising a combination of 0.2-10 weight parts of treating agent having the formula VixSi(OR)_{4-x} and 0.2-15 weight parts treating agent having the formula PhxSi(OR)₅_{3-x} (Vi = vinyl radical). The improved I filler can be used for reinforcing silicone rubber compns. without the use of expensive additives. Thus, 100 parts I (surface area 250 m²/g) was mixed with vinyl trimethoxysilane (II) 2, PhSi(MeO)₃ 4, and hexamethyldisilazane (III) 0.1 part for 45 min. to give a treated filler. The treated filler was then mixed with dimethylvinylsiloxy-terminated poly(dimethylsiloxane), dimethylvinylsiloxy-terminated poly(diorganosiloxane), and OH-terminated poly(dimethylsiloxane) fluid, worked up, compounded with 2,5-bis(tert-butylperoxy)-2,5-dimethylhexane, then molded and cured at 171°, post-cured at 200°, and aged at 225° for 70 h to give silicone rubber sheets showing hardness change 0, tensile strength change -61%, and elongation change -64%, compared with 6, -62, and -85, resp.,

for a similar silicone rubber reinforced with I treated with II,
MeSi(MeO)₃, and III.

IT 2768-02-7, Vinyltrimethoxysilane 2996-92-1,
Phenyltrimethoxysilane
(treatment by, of silica filler, for improved
rubber reinforcement)
RN 2768-02-7 HCAPLUS
CN Silane, ethenyltrimethoxy- (9CI) (CA INDEX NAME)



RN 2996-92-1 HCAPLUS
CN Silane, trimethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 7631-86-9, Silica, uses and miscellaneous
(treatment of, with phenyl- and vinylalkoxysilanes, for rubber
reinforcement)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C09C001-30
ICS C09C003-12; C08K009-06
CC 39-9 (Synthetic Elastomers and Natural Rubber)
ST silica filler treatment vinylalkoxysilane; phenylalkoxysilane
treatment silica filler; silicone rubber modified
silica filler
IT 2768-02-7, Vinyltrimethoxysilane 2996-92-1,
Phenyltrimethoxysilane
(treatment by, of silica filler, for improved
rubber reinforcement)
IT 7631-86-9, Silica, uses and miscellaneous
(treatment of, with phenyl- and vinylalkoxysilanes, for rubber
reinforcement)

L66 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:57678 HCAPLUS
DOCUMENT NUMBER: 108:57678
TITLE: Reversion-resistant cold-vulcanizable silicone
rubber with low oil content
INVENTOR(S): Lagarde, Robert
PATENT ASSIGNEE(S): Rhone-Poulenc Specialites Chimiques, Fr.
SOURCE: Fr. Demande, 25 pp.

DOCUMENT TYPE: CODEN: FRXXBL
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: French
 1
 PATENT INFORMATION:

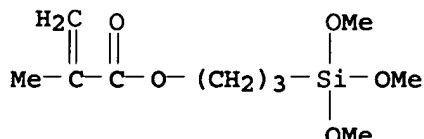
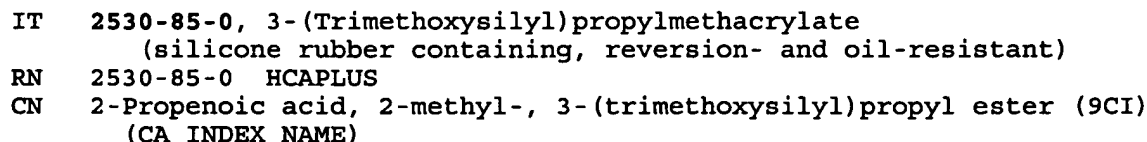
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2592656	A1	19870710	FR 1986-403	1986 0109
FR 2592656	B1	19880520		
JP 62230851	A2	19871009	JP 1987-632	1987 0107
JP 05069862	B4	19931001		
EP 235048	A1	19870902	EP 1987-420006	1987 0108
EP 235048	B1	19901107		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
BR 8700055	A	19871201	BR 1987-55	1987 0108
US 4782107	A	19881101	US 1987-1433	1987 0108
CA 1269190	A1	19900515	CA 1987-526952	1987 0108
AT 58154	E	19901115	AT 1987-420006	1987 0108
PRIORITY APPLN. INFO.:			FR 1986-403	A 1986 0109
			EP 1987-420006	A 1987 0108

AB The title compns., with good mech. properties and resistance to hot motor oil, contain siloxanes with viscosity <1000 Pa-s at 25° 100, reinforcing fillers 5-150, organic peroxides 0.1-7, silylalkyl (meth)acrylates 0.01-5, and alkaline earth (hydr)oxides 0.1-20 parts. A mixture of di-Me siloxane containing 0.2 mol% vinyl groups (viscosity 10 kPa-s at 25°) 100, SiO₂ 45, 3-(trimethoxysilyl)propyl methacrylate 0.5, 2,5-bis(tert-butylperoxy)-2,5-dimethylhexane 0.5, MgO 1, and di-Me silicone oil (viscosity 50 mPa-s) 1.6 parts was heated 10 min at 170°/30 bars to give a rubber with Shore A hardness 63, tensile strength 9.25 MPa, elongation 300%, tear strength 21 kN/m, compression set 34%, and Zwick resilience 49%, vs. 66, 9, 295, 22, 19, and 49, resp., when post-cured 4 h at 200°.

IT 7631-86-9, Silica, uses and miscellaneous
 (fillers, for silicone rubber, reversion- and oil-resistant)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L083-04
ICS C08K013-02

CC 39-10 (Synthetic Elastomers and Natural Rubber)

ST magnesium oxide silicone rubber; silylalkyl methacrylate silicone rubber; silica filler silicone rubber; reversion resistance silicone rubber; oil resistance silicone rubber

IT 7631-86-9, Silica, uses and miscellaneous
(fillers, for silicone rubber, reversion- and oil-resistant)

IT 79-10-7D, Acrylic acid, (alkoxysilyl)alkyl esters 1305-62-0, Calcium hydroxide, uses and miscellaneous 1305-78-8, Calcium oxide, uses and miscellaneous 1309-48-4, Magnesium oxide, uses and miscellaneous 2530-85-0, 3-(Trimethoxysilyl)propylmethacrylate
(silicone rubber containing, reversion- and oil-resistant)

L66 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1982:564365 HCAPLUS

DOCUMENT NUMBER: 97:164365

TITLE: Organosiloxane pastes curable by heat to elastomers

INVENTOR(S) : Bouverot, Noel; Medard, Paul; Viale, Alain

PATENT ASSIGNEE(S) : Rhone-Poulenc Industries S. A., Fr.

SOURCE: Fr. Demande, 17 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 2497517	A1	19820709	FR 1981-115	1981 0107
FR 2497517	B1	19850809		
EP 60368	A1	19820922	EP 1981-402012	1981 1216
EP 60368	B1	19850626		

NO 8200010	A	19820708	NO 1982-10	1982 0105
NO 156530	B	19870629		
NO 156530	C	19871007		
ES 508528	A1	19831101	ES 1982-508528	1982 0105
CH 652136	A	19851031	CH 1982-34	1982 0105
BE 891702	A1	19820706	BE 1982-206996	1982 0106
FI 8200030	A	19820708	FI 1982-30	1982 0106
FI 74035	B	19870831		
FI 74035	C	19871210		
GB 2091281	A	19820728	GB 1982-298	1982 0106
GB 2091281	B2	19840822		
JP 57137357	A2	19820824	JP 1982-836	1982 0106
JP 60046140	B4	19851014		
BR 8200038	A	19821026	BR 1982-38	1982 0106
CA 1162677	A1	19840221	CA 1982-393667	1982 0106
US 4384068	A	19830517	US 1982-337843	1982 0107
PRIORITY APPLN. INFO.:		FR 1981-115	A	1981 0107

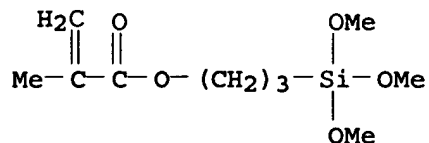
AB The title pastes, with penetration (NF T 60-132) 80-400, contain siloxanes (viscosity 500-300,000 mPa-s at 25°) 100, reinforcing SiO₂ (sp. surface ≥50 m²/g, 55-95% precipitated SiO₂ and 5-45% flame SiO₂) 7-85, antistucturing agents 1-20, and organic peroxides 0.1-4 parts. Thus, a vinyl group-containing di-Me siloxane (viscosity 105 mPa-s) 100, OH-terminated di-Me siloxane (viscosity 50 mPa-s) 4, flame SiO₂ (sp. surface 200 m²/g, average primary particle size 21 nm) 10, and precipitated SiO₂ (sp. surface 170 m²/g, average primary particle size 18 nm) 35 parts were mixed 1 h at 150°, cooled to 30°, and mixed with 1.12 parts 2,4-dichlorobenzoyl peroxide to give a paste with penetration 190. Curing this composition 8 min at 115°/50 bar and 4 h at 200°/1 atm gave a rubber with Shore A hardness 56, tensile strength 7.5 MPa, and elongation 510%.

IT 2530-85-0
(coupler, for silica fillers for silicone rubbers pastes)

RN 2530-85-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester (9CI)

(CA INDEX NAME)



IT 7631-86-9, uses and miscellaneous
 (filler, for thermally curable silicone rubber pastes)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IC C08L083-04; C08K003-36
 CC 39-9 (Synthetic Elastomers and Natural Rubber)
 ST silicone rubber paste; silica filler silicone rubber
 IT Coupling agents
 (silanes, for silica fillers for silicone rubber pastes)
 IT 556-67-2 2530-85-0
 (coupler, for silica fillers for silicone rubbers pastes)
 IT 7631-86-9, uses and miscellaneous
 (filler, for thermally curable silicone rubber pastes)

L66 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1979:188333 HCAPLUS

DOCUMENT NUMBER: 90:188333

TITLE: Silicon dioxide composition treated with silazane

INVENTOR(S): Elias, Janet Lesko; Maxson, Myron Timothy; Lee, Chi-Long

PATENT ASSIGNEE(S): Dow Corning Corp., USA

SOURCE: Ger. Offen., 26 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2838379	A1	19790308	DE 1978-2838379	1978 0902
DE 2838379	B2	19800626		
DE 2838379	C3	19810416		
US 4116919	A	19780926	US 1977-830527	1977 0906

PRIORITY APPLN. INFO.:

US 1977-830527

A

1977

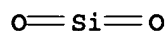
0906

AB Silica filler is treated with (Me₃Si)₂NH [999-97-3] and bis(1-methyl-1-silicyclopent-3-en-1-yl)amine (I) [55629-28-2] and mixed with **hardenable silicone rubber** molding compns. The mixts. have low viscosity and are suitable for molding under low pressure. Thus, 185 g silica (sp. surface 250 m²/g) is mixed with PhMe and 8.9 g water, treated with a mixture of 49.37 g (Me₃Si)₂NH and 5.73 g I, and dried at 150° to prepare a filler for silicone rubber.

IT 7631-86-9, uses and miscellaneous
(fillers, silazane-treated, for silicone rubber)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 999-97-3
(silica treated by, fillers for silicone rubber)

RN 999-97-3 HCAPLUS

CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)- (9CI) (CA INDEX NAME)



IC C08K003-36

CC 38-9 (Elastomers, Including Natural Rubber)

ST **silica filler silicone rubber**; silazane treatment silica filler; silacyclopentenylamine treatment silica filler; amine silacyclopentenyl silica filler

IT 7631-86-9, uses and miscellaneous
(fillers, silazane-treated, for silicone rubber)

IT 999-97-3 55629-28-2
(silica treated by, fillers for silicone rubber)

L66 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1976:561588 HCAPLUS

DOCUMENT NUMBER: 85:161588

TITLE: Storage-stable liquid organopolysiloxane compounds

INVENTOR(S): Gibard, Andre

PATENT ASSIGNEE(S): Rhone-Poulenc S. A., Fr.

SOURCE: Ger. Offen., 25 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2604755	A1	19760819	DE 1976-2604755	1976 0207
DE 2604755	C3	19790125		

FR 2300114	A1	19760903	FR 1975-4046	1975 0210
FR 2300114	B1	19790608		
BE 838388	A1	19760809	BE 1976-164183	1976 0209
DK 7600514	A	19760811	DK 1976-514	1976 0209
DK 137684	C	19780925		
SE 7601390	A	19760811	SE 1976-1390	1976 0209
SE 426953	B	19830221		
SE 426953	C	19830602		
NL 7601291	A	19760812	NL 1976-1291	1976 0209
NL 164314	B	19800715		
NL 164314	C	19801215		
BR 7600779	A	19760831	BR 1976-779	1976 0209
JP 51105357	A2	19760917	JP 1976-13123	1976 0209
JP 53042784	B4	19781114		
ZA 7600718	A	19770427	ZA 1976-718	1976 0209
ES 444999	A1	19771101	ES 1976-444999	1976 0209
GB 1493902	A	19771130	GB 1976-4965	1976 0209
US 4064096	A	19771220	US 1976-656735	1976 0209
CH 609081	A	19790215	CH 1976-1535	1976 0209
AU 498594	B2	19790315	AU 1976-10951	1976 0209
CA 1073580	A1	19800311	CA 1976-245469	1976 0209
DK 7605553	A	19761210	DK 1976-5553	1976 1210
DK 139528	C	19790820		
DK 139528	B	19790305		
ES 458287	A1	19780216	ES 1977-458287	1977 0429
JP 53137254	A2	19781130	JP 1978-32795	1978 0322

JP 56039816	B4	19810916		
SE 8000332	A	19800115	SE 1980-332	1980 0115
SE 426954	B	19830221		
SE 426954	C	19830602		
PRIORITY APPLN. INFO.:			FR 1975-4046	A 1975 0210
			DK 1976-514	A 1976 0209

AB The title compns., useful in the preparation of silicone rubber, are prepared by mixing 100 parts R3Si-terminated siloxane (R = Me 40-100, Ph 0-58, vinyl 0-2%) (viscosity 400-3000 cP at 25°), 30-75 parts SiO₂ (sp. surface >80 m²/g), 1.5-7 parts H₂O, and 4-18 parts [R1Si(Me)₂]₂NH or R1Si(Me)₂NHR₂ (R1 = Me, Et, Ph, vinyl; R₂ = Me, Et), stripping volatiles at 70-200°/≤1 atm, and adding to 100 parts this composition 45-120 parts OH-terminated dimethylsiloxane (I) viscosity 2000-60,000 cP at 25° and 25-120 parts SiO₂ (sp. surface <50 m²/g). Thus, mixing Me₃Si[OSi(Me)₂]_nOSiMe₃ (viscosity 1000 cP) 3000, pyrolytic SiO₂ (sp. surface 200 m²/g, H₂O content 1.5%) 1200, H₂O 96, and (Me₃Si)₂NH [999-97-3] 240 g 6 hr at room temperature, distilling volatiles at 155°, and mixing 2 hr at 80° with I (viscosity 16,000 cP) 3000, I (viscosity 50 cP) 52, and ground quartz (particle size 5 μ, sp. surface 15 m²/g, H₂O content 1%) 3000 g gives a composition with viscosity 42,000 cP, essentially unchanged after 6 months storage in sealed containers. Mixing this composition 1000, Me₃Si[OSi(Me)₂]_nOSiMe₃ (viscosity 20 cP) 35, poly(Pr silicate) 7, and (C₁₁H₂₃CO₂)₂SnBu₂ 5 g and exposing films 4 days at 20° and 50% relative humidity gives a rubber with Shore A hardness 23, tensile strength 37 kg/cm², elongation 350%, and tear strength 24 kg/cm.

IT 7631-86-9, uses and miscellaneous
(fillers, for silicone rubber)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 999-97-3 16513-17-0 60743-29-5
(in silicone rubber manufacture)

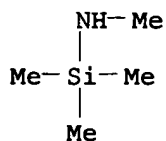
RN 999-97-3 HCAPLUS

CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)- (9CI) (CA INDEX NAME)

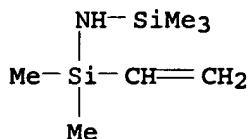
Me₃Si-NH-SiMe₃

RN 16513-17-0 HCAPLUS

CN Silanamine, N,1,1,1-tetramethyl- (9CI) (CA INDEX NAME)



RN 60743-29-5 HCAPLUS
 CN Silanamine, N-(ethenyldimethylsilyl)-1,1,1-trimethyl- (9CI) (CA
 INDEX NAME)



IC C08G077-38
 CC 38-4 (Elastomers, Including Natural Rubber)
 ST silicone rubber storage stability; silica filler
 silicone rubber; quartz filler silicone rubber; silazane
 hexamethyl silicone rubber
 IT 7631-86-9, uses and miscellaneous 14808-60-7, uses and
 miscellaneous
 (fillers, for silicone rubber)
 IT 999-97-3 16513-17-0 60743-29-5
 (in silicone rubber manufacture)

L66 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1976:136974 HCAPLUS
 DOCUMENT NUMBER: 84:136974
 TITLE: Curable diorganopolysiloxane compositions for
 elastomers
 PATENT ASSIGNEE(S): Elektroschmellzwerk Kempten G.m.b.H., Fed.
 Rep. Ger.
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50051554	A2	19750508	JP 1973-101591	1973 0908
JP 52036538	B4	19770916	JP 1973-101591	1973 0908

PRIORITY APPLN. INFO.: A

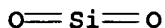
AB The reaction product of silicon dioxide [7631-86-9] with
 trimethylethoxysilane [1825-62-3] was used as a filler
 for siloxanes. Thus, SiO₂ 200, Me₃SiOEt 15, and water were mixed
 in a ball mill purged with HCl for 2 hr and heated at 250°

for 2 hr to remove volatiles, and the filler (21.4 parts) was mixed with a dimethylpolysiloxane having a SiOH end group 53.7, Me3SiO-blocked dimethylpolysiloxane 21, and vinyltriacetoxysilane 3.9 parts and **hardened** to prepare an **elastomer**.

IT 7631-86-9D, Silica, reaction products with trimethylethoxysilane 100402-95-7, Silane, ethoxytrimethyl-, reaction products with silica (fillers, for silicone rubber)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



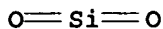
RN 100402-95-7 HCAPLUS **

CN Silane, ethoxytrimethyl-, reaction products with silica (CA INDEX NAME)

CM 1

CRN 7631-86-9

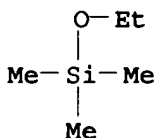
CMF 02 Si



CM 2

CRN 1825-62-3

CMF C5 H14 O Si



IC C08L; C08K

CC 38-9 (Elastomers, Including Natural Rubber)

ST silicone rubber filler; silica filler silicone rubber

IT Rubber, silicone (fillers for, silica-trimethylethoxysilane reaction products as)

IT 7631-86-9D, Silica, reaction products with trimethylethoxysilane 100402-95-7, Silane, ethoxytrimethyl-, reaction products with silica (fillers, for silicone rubber)

L66 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1976:136958 HCAPLUS

DOCUMENT NUMBER: 84:136958

TITLE: Curable organopolysiloxane compositions

INVENTOR(S): Kratel, Guenter; Stohr, Guenter; Vogt, Georg; Hechtel, Wolfgang

PATENT ASSIGNEE(S): Elektroschmelzwerk Kempten G.m.b.H., Fed. Rep.
 Ger.
 SOURCE: Brit., 7 pp.
 CODEN: BRXXAA
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1420345	A	19760107	GB 1973-41967	1973 0906
PRIORITY APPLN. INFO.:			GB 1973-41967	A 1973 0906

AB Noncreep room temperature- **hardenable elastomers**
 were manufactured using a Me₃SiOEt-modified SiO₂ filler prepared by
 ball-milling pyrogenic SiO₂ with Me₃SiOEt. Thus, 200 g SiO₂
 surface area 200 m²/g bulk d. 65 g/l. were mixed with 15 g
 Me₃SiOEt and 2 g H₂O in a mill containing 1.5 l. 15-40 mm diameter
 porcelain balls. After milling 2 hr under HCl(g) and heating 2 hr
 at 250° to remove volatiles filler bulk d. 280 g/l. was
 obtained. A composition of OH group-containing dimethylpolysiloxane 128.0,
 Me₃Si-end blocked dimethylpolysiloxane 56.0, filler 44.0,
 CH₂:CHSi(OAc)₃ 12.8, and dibutyltin dilaurate 6.2 g gave a soft
 mass which cured in 2 days in air to give an elastomer tear
 propagation resistance 12.8 kg/cm and elongation at break 490%.

IT 7631-86-9D, Silica, ethoxytrimethylsilane-modified
 100402-95-7, Silane, ethoxytrimethyl-, reaction products
 with **silica**
 (fillers, for silicone **rubber**, room-temperature curable
 compns.)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

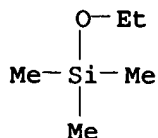
O=Si=O

RN 100402-95-7 HCAPLUS **
 CN Silane, ethoxytrimethyl-, reaction products with silica (CA INDEX
 NAME)
 CM 1
 CRN 7631-86-9
 CMF O2 Si

O=Si=O

CM 2
 CRN 1825-62-3

CMF C5 H14 O Si



IC C08L; C09C
 CC 38-4 (Elastomers, Including Natural Rubber)
 ST silicone rubber silica filler; silane treatment silica filler
 IT 7631-86-9D, Silica, ethoxytrimethylsilane-modified
 100402-95-7, Silane, ethoxytrimethyl-, reaction products with silica
 (fillers, for silicone rubber, room-temperature curable compns.)

L66 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1975:580801 HCAPLUS

DOCUMENT NUMBER: 83:180801

TITLE: Hardenable materials producing elastomers, based on poly(diorganosiloxanes)

PATENT ASSIGNEE(S): Elektroschmelzwerk Kempten G.m.b.H., Fed. Rep. Ger.

SOURCE: Fr. Demande, 16 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2243220	A1	19750404	FR 1973-32337	

1973
0907

PRIORITY APPLN. INFO.: FR 1973-32337

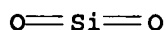
A

1973
0907

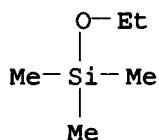
AB Finely divided SiO₂ [7631-86-9] was milled with a silane in the presence of water to give a filler with hydrophobic surface groups which was compounded with poly(dimethylsiloxane) and vulcanizing agents to give silicone rubbers with improved tensile strength and elongation. Thus, 200 g SiO₂, specific surface area 200 m²/g and bulk d. 65 g/l. was milled 2 hr at 70 rpm with 15 g Me₃SiOEt (I) [1825-62-3] and 2 g H₂O and the product was heated 2 hr at 250° to remove volatiles and give a filler of bulk d. 280 g/l. A compounded mixture of an OH-terminated poly(dimethylsiloxane) 128.0, an Me₃Si-terminated poly(dimethylsiloxane) 56.0, the treated SiO₂ filler 32.0, vinyl triacetoxysilane 12.8, a second portion of filler 12.0, and dibutyltin dilaurate 6.2 g, which did not flow or creep, was allowed to vulcanize 2 days at room temperature and the rubber obtained had tear strength 12.8 kg/cm, elongation at break 490%, and

tensile strength 28 kg/cm². A rubber containing filler mixed, but not milled, with I had comparison values 9.1 kg/cm, 360%, and 15 kg/cm².

IT 7631-86-9, uses and miscellaneous
(silane-treated, hydrophobic, silicone rubber containing)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 1825-62-3
(silica filler treated with, for silicone rubber)
RN 1825-62-3 HCAPLUS
CN Silane, ethoxytrimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC C08G
CC 38-9 (Elastomers, Including Natural Rubber)
ST silica filler silicone rubber; hydrophobic
silica rubber filler; silane treatment silica
filler
IT 7631-86-9, uses and miscellaneous
(silane-treated, hydrophobic, silicone rubber containing)
IT 1825-62-3
(silica filler treated with, for silicone rubber)

L66 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1975:411893 HCAPLUS
DOCUMENT NUMBER: 83:11893
TITLE: Organopolysiloxane elastomers
INVENTOR(S): Kratel, Guenter; Patzke, Joerg; Wegehaupt,
Karl H.
PATENT ASSIGNEE(S): Wacker-Chemie G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

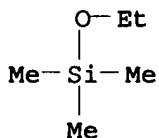
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2343846	A1	19750313	DE 1973-2343846	1973 0830
DE 2343846	B2	19771117		
US 3929718	A	19751230	US 1974-497973	1974 0816
FR 2242420	A1	19750328	FR 1974-29499	

1974
0829
JP 50051157 A2 19750507 JP 1974-99804
1974
0830
JP 52003829 B4 19770131
GB 1473371 A 19770511 GB 1974-38061
1974
0830
PRIORITY APPLN. INFO.: DE 1973-2343846 A
1973
0830

AB Fillers for silicone rubber which blend more rapidly and with reduced energy consumption are prepared by treating finely powdered SiO₂ [7631-86-9] with organosilanes under mech. stress to reduce the filler bulk d. Thus, 200 g pyrolytic SiO₂ (surface area 200 m²/g, bulk d. 0.065), 15 g Me₃SiOEt [1825-62-3], and 2 g H₂O are ball milled 2 hr under HCl and dried 2 hr at 200° to give a filler with bulk d. 0.280. A mixture of 40 g this filler, 100 g silicone rubber (vinyl content 0.1 mole %, 25° viscosity 106 cSt)⁸ and 1% Bz₂O₂ has Mooney viscosity 20, 21, and 21 and plasticization time 0, 0, and 0 min after 1, 2, and 4 wks. storage, resp., compared with 48, 53, 55 and 2.5, 3, and 6, resp., for rubber with filler treated without ball milling (bulk d. 0.065). Vulcanization 10 min at 135° and 4 hr at 200° gives a rubber with Shore A hardness 38, resilience 56%, and tear strength 12 kg/cm, compared with 53, 45, and 11, resp., for the 2nd composition
IT 7631-86-9, uses and miscellaneous (fillers, silane-treated, for silicone rubber)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 1825-62-3 (silica treated by, fillers for silicone rubber)
RN 1825-62-3 HCAPLUS
CN Silane, ethoxytrimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC C08L
CC 38-9 (Elastomers, Including Natural Rubber)
ST silica filler silicone rubber; silane treatment silica filler; densification silica filler
IT Rubber, silicone (silica fillers for, silane treatment of, for improved blending)
IT 7631-86-9, uses and miscellaneous (fillers, silane-treated, for silicone rubber)

IT 1825-62-3

(silica treated by, fillers for silicone rubber)

L66 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:554295 HCAPLUS

DOCUMENT NUMBER: 81:154295

TITLE: Cold-hardenable silicone
rubber compositions

INVENTOR(S): Beers, Melvin Dale

PATENT ASSIGNEE(S): General Electric Co.

SOURCE: Ger. Offen., 53 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2358784	A1	19740606	DE 1973-2358784	1973 1126
US 3847848	A	19741112	US 1972-311487	1972 1204
GB 1446215	A	19760818	GB 1973-51316	1973 1105
IT 1002179	A	19760520	IT 1973-32011	1973 1130
FR 2208937	A1	19740628	FR 1973-43141	1973 1204
FR 2208937	B1	19790622		
JP 49098862	A2	19740918	JP 1973-134946	1973 1204
PRIORITY APPLN. INFO.:			US 1972-311487	A 1972 1204

AB Free-flowing, thixotropic compns. giving moldings with improved mech. properties which cure in the absence of H₂O contain siloxanes, 25.deg. viscosity 103-107 cP, 1-15 phr trialkoxysilane or hydrolysis product, 0.1-5 phr metal salt catalyst, and 5-300 phr SiO₂ [7631-86-9] filler treated with 0.5-5% hydroxylamine, 2-25% cyclosiloxane, and 1-20% silylamine. Thus, 90 parts condensed SiO₂ and 10 parts precipitated SiO₂ (surface area 200 and 300 m²/g, resp.) are treated 6 hr at 145-70.deg. with hexamethyldisilazane [999-97-3] 12, hexamethylcyclotrisiloxane [541-05-9] 8, and Et₂NOH [3710-84-7] 2 parts and vacuum stripped to N content <50 ppm. A mixture (100 parts) of SiOH-terminated dimethylsiloxane (viscosity 30,000 cP) 70, tert-BuO-terminated dimethylsiloxane (viscosity 3000 cP) 30, Me₃Si-terminated dimethylsiloxane (viscosity 20 cP) 27, SiOH-terminated dimethylsiloxane (SiOH content 6.8%, viscosity 15 cP) 1.8, and treated SiO₂ 29 parts is combined with 10 parts mixture of trimethylbutyl-terminated dimethylsiloxane (viscosity 3000 cP)

3.9, propyl silicate [12680-46-5] 3.5, 2% aqueous PrOH 0.6, dibutyltin dilaurate [77-58-7] 1, treated SiO₂ 0.4, and pigment 0.6 part to give a composition which remains castable for 60 min and cures in 24 hr to a rubber with tensile strength 42 kg/cm², elongation 400%, tear strength 27 kg/cm, and Shore A hardness 30, compared with 31.5, 300, 13.5, and 35, resp., with untreated SiO₂.

IT 999-97-3
 (silica treated by, for reinforcement of silicone rubber molding compns.)
 RN 999-97-3 HCAPLUS
 CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)- (9CI) (CA INDEX NAME)

Me₃Si-NH-SiMe₃

IT 7631-86-9, uses and miscellaneous
 (silicone rubber molding compns. reinforced by, surface treatment for use in)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IT 11099-06-2D, Silicic acid, ethyl ester, hydrolyzed, polymers
 (vulcanizing agents, for silicone rubber molding compns.)
 RN 11099-06-2 HCAPLUS
 CN Silicic acid, ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 1343-98-2
 CMF Unspecified
 CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 64-17-5
 CMF C2 H6 O

H₃C-CH₂-OH

IC C08G
 CC 38-10 (Elastomers, Including Natural Rubber)
 ST silicone rubber molding compn; vulcanization silicone rubber; silica filler silicone rubber; hydroxylamine treated silica; cyclosiloxane treated silica; silazane treated silica
 IT 541-05-9 999-97-3 3710-84-7
 (silica treated by, for reinforcement of silicone rubber molding compns.)
 IT 7631-86-9, uses and miscellaneous

(silicone rubber molding compns. reinforced by, surface treatment for use in)
 IT 11099-06-2D, Silicic acid, ethyl ester, hydrolyzed, polymers 12680-46-5
 (vulcanizing agents, for silicone rubber molding compns.)

L66 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1969:462119 HCAPLUS

DOCUMENT NUMBER: 71:62119

TITLE: Mechanism of the antistructuring effect of alkoxysilanes in mixtures of siloxane rubbers with aerosil

AUTHOR(S): Nudel'man, Z. N.; Galil-Ogly, F. A.; Sankina, G. A.

CORPORATE SOURCE: Nauch.-Issled. Inst. Rezin. Prom., Moscow, USSR

SOURCE: Kauchuk i Rezina (1969), 28(6), 4-6

CODEN: KCRZAE; ISSN: 0022-9466

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The addition of methyltrimethoxysilane (I), dimethyl-dimethoxysilane, methylphenyldimethoxysilane, methylphenyldi-ethoxysilane, phenyltrimethoxysilane, phenyltriethoxysilane, phenyltributoxysilane, or phenyltris(octyloxy)silane to SKTV-1 (polysiloxane containing dimethyl- and divinylsiloxane groups) containing fine silica filler prevents **hardening** (structurization) of this **rubber** in storage. The antistructuring ability of the additives depends on the size of the alkoxy group; it is greatest with I. SKTV-1 containing 10 parts I could be stored ≥ 180 days without deterioration. There is a correlation between antistructuring ability and the hydrolytic activity of alkoxysilanes, as determined by heat evolution when they were hydrolyzed with HCl solution in EtOH. However, the results indicate that the alkoxy siloxanes are also adsorbed on silica, preventing its participation in structurization.

IT 775-56-4 780-69-8 1112-39-6

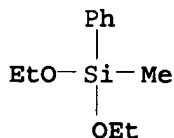
1185-55-3 2996-92-1 3027-21-2

10581-02-9 13340-44-8

(for crosslinking prevention in silica-filled silicone rubber during storage)

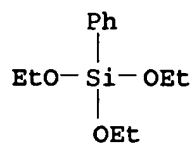
RN 775-56-4 HCAPLUS

CN Silane, diethoxymethylphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

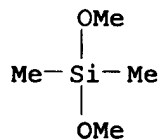


RN 780-69-8 HCAPLUS

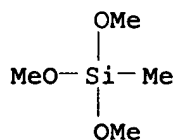
CN Silane, triethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



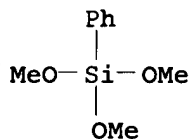
RN 1112-39-6 HCAPLUS
CN Silane, dimethoxydimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



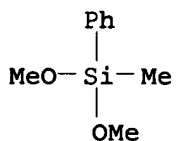
RN 1185-55-3 HCAPLUS
CN Silane, trimethoxymethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



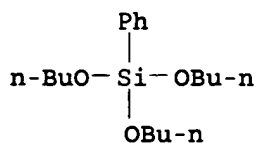
RN 2996-92-1 HCAPLUS
CN Silane, trimethoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 3027-21-2 HCAPLUS
CN Silane, dimethoxymethylphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

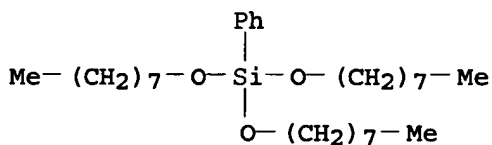


RN 10581-02-9 HCAPLUS
CN Silane, tributoxyphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



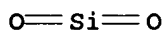
RN 13340-44-8 HCAPLUS

CN Silane, tris(octyloxy)phenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

IT 7631-86-9, uses and miscellaneous
(silicone rubber filled with, silane derivs. for crosslinking prevention during storage of)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 38 (Elastomers, Including Natural Rubber)

IT Crosslinking

(of silica-filled silicone rubber during storage, siloxane derivs. for prevention of)

IT 775-56-4 780-69-8 1112-39-6

1185-55-3 2996-92-1 3027-21-2

10581-02-9 13340-44-8

(for crosslinking prevention in silica-filled silicone rubber during storage)

IT 7631-86-9, uses and miscellaneous

(silicone rubber filled with, silane derivs. for crosslinking prevention during storage of)

L66 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1966:491639 HCAPLUS

DOCUMENT NUMBER: 65:91639

ORIGINAL REFERENCE NO.: 65:17180a-d

TITLE: Improved organopolysiloxane elastomers

INVENTOR(S): Roch, Kenneth M.

PATENT ASSIGNEE(S): Midland Silicones Ltd.

SOURCE: 7 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

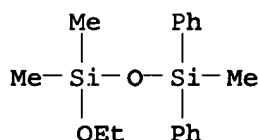
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

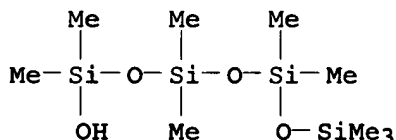
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 1041081		19660901	GB	

1962
0823

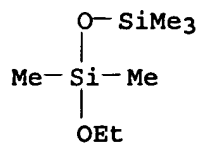
- AB The premature hardening of silica(I)-filled, vulcanizable organopolysiloxanes (II), caused by interaction between I and II, may be minimized by inclusion in the filled stock of a low mol. weight organosiloxane polymer (III), in which one terminal Si atom of the polymer chain possesses a group capable of reacting with the I surface, while the remaining terminal atom is substituted with groups which are relatively nonreactive with I. The reinforcing I is employed in the range 10-75 parts by weight per 100 parts II, and the reactive III in the range 20-100 parts by weight per 100 parts I. The elastomer produced incorporating III has improved phys. properties, especially tear resistance. Thus, 100 parts of a siloxane gum composed of phenylmethylsiloxane 13, dimethylsiloxane 86.85, and methylvinyl siloxane 0.16 weight-%, was compounded in a Baker-Perkins mixer with 40 parts I (BET surface area 300 m.2 g.-1), 20 parts pentamethylmonoethoxydisiloxane, and 1 part stannous octanoate. The system was sealed and the mixture heated under reflux for 3 hrs. and then in vacuo at 180° for a further 2 hrs., thereafter being allowed to cool. When the stock was compounded with 2,4-dichlorobenzoyl peroxide and vulcanized at 115°, the rubber had the following properties for a 5 min. cure at 115° and a 24 hr. post-cure at 250°, resp., hardness (BS°) 34, 46; tensile strength (psi.) 1520, 1275; elongation at break (%) 660,430; tear strength (lb.), 19.5, 12.0. Samples of the unvulcanized stock were easily processable when milled after 3 months storage.
- IT 13176-68-6, Disiloxane, 1-ethoxy-1,1,3-trimethyl-3,3-diphenyl- 13176-69-7, 1-Tetrasiloxanol, nonamethyl- 13176-70-0, Disiloxane, ethoxypentamethyl- (silicone rubbers (SiO₂-filled vulcanizable) premature hardening prevention by)
- RN 13176-68-6 HCAPLUS
- CN Disiloxane, 1-ethoxy-1,1,3-trimethyl-3,3-diphenyl- (7CI, 8CI) (CA INDEX NAME)



- RN 13176-69-7 HCAPLUS
- CN 1-Tetrasiloxanol, 1,1,3,3,5,5,7,7,7-nonamethyl- (9CI) (CA INDEX NAME)



- RN 13176-70-0 HCAPLUS
- CN Disiloxane, ethoxypentamethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 7631-86-9, Silica
 (silicone rubbers containing, premature hardening
 of vulcanizable, prevention by siloxanes containing, SiO₂-reactive
 end-groups)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC C09C
 CC 49 (Rubber and Other Elastomers)
 IT Silicones
 (rubbers, silica-filled, premature
 hardening of vulcanizable, prevention by siloxanes
 containing SiO₂-reactive end-groups)
 IT 13176-68-6, Disiloxane, 1-ethoxy-1,1,3-trimethyl-3,3-
 diphenyl- 13176-69-7, 1-Tetrasiloxanol, nonamethyl-
 13176-70-0, Disiloxane, ethoxypentamethyl-
 (silicone rubbers (SiO₂-filled vulcanizable) premature
 hardening prevention by)
 IT 7631-86-9, Silica
 (silicone rubbers containing, premature hardening
 of vulcanizable, prevention by siloxanes containing, SiO₂-reactive
 end-groups)